

Cebu Longitudinal Health and Nutrition Survey Follow-up Study Final Report



Linda Adair
Meera Viswanathan
Barbara Polhamus
Carolina Population Center,
University of North Carolina at Chapel Hill

Josephine Avila
Socorro Gultiano
Lorna Perez
Office of Population Studies,
University of San Carlos
Cebu City, The Philippines

October—November, 1997

FHI

Family Health International
Women's Studies Project

Family Health International is a nonprofit research and technical assistance organization dedicated to providing the highest quality research, education and services in family planning, sexually transmitted disease and AIDS, and family health, to improve the health and well-being of populations worldwide. Portions of this paper may be cited or quoted without permission for noncommercial purposes; appropriate credit should be given to Family Health International.

The Women's Studies Project is funded by the U.S. Agency for International Development, Office of Population, through a Cooperative Agreement (USAID/CCP-A-00-93-00021-05). The views expressed in this paper do not necessarily reflect policies of USAID or other donors.

The Women's Studies Project
Family Health International
PO Box 13950
Research Triangle Park, North Carolina USA
Telephone: 1-919-544-7040
Fax: 1-919-544-7261
Website: <http://www.fhi.org>

Exploring the Complexity of Women's Lives:

Family Planning, Children, Decision-making, Domestic Work, and Labor Force Participation
in Cebu, Philippines

Linda Adair, PhD, Principal Investigator
Meera Viswanathan, Research Assistant
Barbara Polhamus, Research Assistant

Carolina Population Center
University of North Carolina at Chapel Hill
Chapel Hill, NC 27516-3997

Josephine Avila, Co-Investigator
Socorro Gultiano, Co-Investigator

Office of Population Studies
University of San Carlos
Cebu, Philippines

October 15, 1997

Acknowledgments

Major portions of the CLHNS follow-up study and all research for this report were funded by the U.S. Agency for International Development (USAID) under Cooperative Agreement USAID/CCP-3060-A-3021-00 to Family Health International (FHI), Research Triangle Park, NC, USA. The conclusions expressed in this report are those of the authors and do not necessarily reflect the policies of FHI or USAID.

The Researchers at UNC and OPS wish to thank Nancy Williamson and the entire staff of the Women's Studies project for their support. Their vision, enthusiasm and dedication to the study of women's lives is the core of the success of the Women's Studies Project. Special thanks to Eilene Bisgrove for her technical assistance, intellectual guidance and social support throughout the entire project.

The Cebu Study could not have been carried out without the guidance, leadership and expertise of Dr. Wilhelm Flieger, Director of the Office of Population Studies at the University of San Carlos. We owe a very special thanks to the dedicated field workers who conducted hours of interviews, and to the staff at OPS responsible for so many other aspects of the project.

The authors would like to thank Frances Dancy, Administrative Assistant at UNC for her extensive assistance in the preparation of this report.

List of Tables

Table 1.	Sample size at selected time points in the CLHNS.
Table 2.	Selected sociodemographic characteristics of women in the 1994 indepth sample vs the full 1994 sample.
Table 3.	Comparison of the CLHNS Sample with Women in the 1980 Census of Metro Cebu.
Table 4.	CLHNS sample women compared to 1993 Philippines Safe Motherhood Survey Sample.
Table 5.	Selected baseline sociodemographic characteristics of women in the 1994 sample vs those lost after baseline.
Table 6.	List of survey modules related to mothers.
Table 7.	Sociodemographic characteristics of 1994 sample women: changes over time.
Table 8.	Dietary intake and nutritional status of 1994 sample women: changes over time.
Table 9.	Nutritional status varies by maternal age.
Table 10.	Women's dietary intake and nutritional status varies by household income.
Table 11.	Mean number and outcome of pregnancies by age group.
Table 12.	Family planning and fertility status.
Table 13.	Knowledge and use of family planning.
Table 14.	Reasons for not using among women who never used family planning.
Table 15.	Patterns in women's history of family planning use.
Table 16.	Relationship of family planning use to number of pregnancies: Results from linear regression models, with total number of pregnancies as the dependent variable.
Table 17.	Characteristics of CLHNS sample women with differing numbers of pregnancies.
Table 18.	Intervals between subsequent births or pregnancy terminations.

Table 19.	Family planning method used “for the longest duration” during each pregnancy interval.
Table 20.	Mean birth intervals in women reporting no use of family planning versus those using modern, barrier or natural methods.
Table 21.	Family planning methods: current use in 1985, 1991, 1994 among women present for the 1994 survey.
Table 22.	Work patterns of sample women.
Table 23.	Characteristics of women in different categories of work.
Table 24.	Work status differs in urban and rural communities.
Table 25.	Characteristics of women in different occupation categories.
Table 26.	Trends in working for pay and work sector over time in the sample of women present in 1994.
Table 27.	Place of work.
Table 28.	Hours worked for pay.
Table 29.	Usual hours worked for pay, by sector of employment.
Table 30.	Women’s income by sector of employment: values deflated to 1983 values to allow comparison with earlier rounds of the CLHNS.
Table 31.	Women’s earnings as percentage of household income.
Table 32.	Time allocation varies by level of household income: minutes per day spent in various activities.
Table 33.	Time allocation varies by work sector: minutes per day spent in various activities.
Table 34.	Household tasks: percentage of mothers who are mainly or fully responsible.
Table 35.	Number of household tasks women do (maximum = 7, tasks include buying food, cooking food, cleaning up after meals, cleaning the house, buying clothes, washing clothes, and caring for children.
Table 36.	Mean number of tasks by work and income status.

Table 37.	Household tasks by work sector.
Table 38.	Who do women consult when making decisions?
Table 39.	Patterns in minor decisions.
Table 40.	Patterns in major decisions
Table 41.	Patterns of decision-making for women: Decisions about buying children's clothes, taking the child to the doctor, and children's schooling, and buying shoes.
Table 42.	Major decisions: working outside the home, traveling outside of Cebu, using family planning, making a major purchase, buying or selling land.
Table 43.	Autonomy in decision making: Whose will prevails?
Table 44.	How women spend their earnings, when they are earning an income
Table 45.	Ratings of appearance of the woman, her children, and her house by characteristics of women and households.
Table 46.	Ratings of appearance of the woman, her children, and her house by characteristics of women and households.
Table 47.	Correlation coefficients: indicators of autonomy, socioeconomic status and social status.

List of Figures

- Figure 1. Mean birth intervals
- Figure 2. Family planning use between pregnancies
- Figure 3. Income progression among mothers consistently working for pay by total number of pregnancies
- Figure 4. Income progression among mothers consistently working for pay by number of pregnancies after baseline (n=839)

List of Appendices

- Appendix 1. In-depth interview guide
- Appendix 2. Results of a multinomial logistic regression analysis of working for pay. Coefficients represent the log odds of work in each category relative to not working.
- Appendix 3. List of occupations
- Appendix 4. Correlation matrix
- Appendix 5. Abstract of paper submitted for presentation at the 1998 PAA meetings by Connie Gultiano.

Table of Contents

List of Tables	ii
List of Figures	v
List of Appendices	vi
Executive Summary	ix
I. Overview	1
A. Background	1
B. How the CLHNS Fits into the WSP	1
C. The Strategy of Building on a Longitudinal Study	1
II. The CLHNS	2
A. Survey Design	6
B. Sample	6
C. Sample Selectivity	8

III.	Methods	14
A.	The quantitative survey	14
B.	Qualitative methods: The In-depth Surveys	15
IV.	Results	16
A.	Sociodemographic Characteristics of the Sample, and Trends Since 1983	16
B.	Health and Nutritional Status	17
C.	Fertility and Family Planning	19
	Knowledge and use	
	Family planning and fertility	
	Birth spacing and use of family planning	
	Trends in family planning over time	
D.	Women's Work for Pay.....	35
	Participation in work for pay	
	Occupations	
	Trends over time	
	Place of work	
	Hours	
E.	Women's Income	42
F.	Expenditures	43
G.	Work and childbearing	45
H.	Time allocation and Work Burdens	47
I.	Autonomy: Decision Making	55
J.	Women's Status.....	66
K.	Relationship among the Status and Autonomy Variables.....	67
L.	Domestic Violence	69
V.	The In-depth Survey	69

VI.	Implications and Directions for Further Research, Including Ongoing Analyses and Plans for Dissemination and Publication	69
VII.	References	73

Executive Summary

The Cebu Longitudinal Health and Nutrition Survey (CLHNS) is an ongoing study of a large sample of women and children from Metro Cebu, the second largest metropolitan area of the Philippines. The study began in 1983 by following a community-based cohort of over 3,000 pregnant women to collect data on a wide range of maternal and child health and nutritional outcomes, and on patterns of work, time allocation and income, birth spacing, family planning. As part of the Women's Studies Project, a 1994-95 follow-up of the CLHNS included modules designed to assess women's status, patterns of decision making, and complete history of work and family planning throughout the childbearing years. In addition, a series of in-depth ethnographic interviews were conducted on a sub-sample of 60 women to learn in greater detail about women's life histories, with a focus on how they make decisions about having children, work for pay, and family planning. Descriptive analyses of data from the follow-up survey, including some commentary on trends in important behaviors and outcomes since 1983 are the key elements of the report. We list some of the most important findings below:

1. The median number of pregnancies in the Cebu sample is 5. History of use of family planning is not related to a woman's total number of pregnancies.
2. Family planning is significantly related to birth spacing: use of modern methods in an interval is associated with a 13-month increase in the interval, while use of natural methods is associated with increases of 5-7 months.
3. When income earned by others in the household is high, women are less likely to work. Women are more likely to work when they believe their husband's income is inadequate to meet household needs.
4. Having young children decreases the likelihood that a woman will work for pay.
5. 78% of women reported working for pay at the time of the survey. 18% of women contributed more than 50% of the total household income.
6. Earnings of women who tend to work consistently increase at a greater rate over time when they have fewer children.
7. Women's autonomy is independent of measures of social and socioeconomic status. High and low autonomy women can be found at every level of income and education.
8. The domestic burden of women is strongly affected by the number of children, with infants and preschool children contributing most to the domestic burden through the demands of child care.

I. Overview

A. Background

Family planning is expected to allow women to limit the number of children they have and/or create longer intervals between births. In either case, the domestic burdens of child bearing and rearing are expected to decline, thereby offering women more opportunities to work and earn an income, and participate in activities which they find fulfilling or pleasant, whether these activities are within the family or the broader community. The benefits and limitations of reduced childbearing are likely vary substantially depending on the value place on having a large family, opportunities for women in the labor force and community, and numerous other factors. A number of conceptual frameworks have been offered by researchers, and adopted and modified for use in the Women's Studies Project. These frameworks identify key components of women's lives likely to be affected by family planning. Building on the work of Hong and Seltzer (1994), Oppong (1980) and Schuler and Hashemi (1993), Hardee et al (1996) defined 3 domains of women's lives: societal and economic, family and household, and the woman as an individual. In a more detailed theoretical paper about the relationship of family planning to women's work, Bisgrove and Viswanathan (1997) identified a wide range of factors that need to be considered when relating family planning to women's decisions to work and earn income. Further, Bisgrove (1996) defined the context of family planning in the Philippines. Together, these papers provide the theoretical backdrop for the Cebu, Philippines study of women's lives.

B. How the CLHNS fits into the Women's Studies Project

A major goal of the WSP is to understand "the immediate and long-term consequences for women of family planning programs and methods". Several consequences of interest include women's ability to work and earn income, quality of life, status and well-being.

A major challenge to meeting this goal is to determine the direction of causality. Women are likely to make decisions about limiting family size or spacing children in conjunction with or conditional on other decisions such as whether to work outside of the home. Thus we are faced with questions such as: Is use of family planning a response to the current difficulties and economic demands of a large family? Or, it is a way to plan for the future in anticipation of a better life? Do women choose to limit childbearing so that they can enter the labor force and earn more? Or do they work because of the economic demands of large families?

C. The strategy of building on an existing longitudinal study

Questions of causality can only begin to be addressed in a rigorous manner with longitudinal data that record the sequence of events and choices over the reproductive life cycle. Longitudinal studies of large representative samples are notoriously costly and time consuming. Thus, it is

highly efficient and cost-effective to make use of existing longitudinal data, with tailoring of follow-up surveys to meet specific research objectives. This is one important rationale for the incorporation of the Cebu Longitudinal Health and Nutrition Survey (CLHNS) into the WSP.

The CLHNS is an ongoing study of a cohort of children and their mothers in Cebu, Philippines. Since 1983, comprehensive individual, household and community data have been collected from participants. The 1994-95 CLHNS follow-up survey maintained the continuity of core data collection, and added specific modules related to patterns of decision making, status and autonomy; a more detailed assessment of family planning usage; and more detailed information about women's employment histories.

This report is a summary of results from the 1994-95 CLHNS. It emphasizes relationships among different variables measured at the time of the survey, and describes trends over time. Further, the data allow for an assessment of whether concepts deemed important in theoretical frameworks can effectively be measured in the field. The data offer important opportunities for future longitudinal analysis of causal relationships, but such analyses are not included in this report.

II. The CLHNS

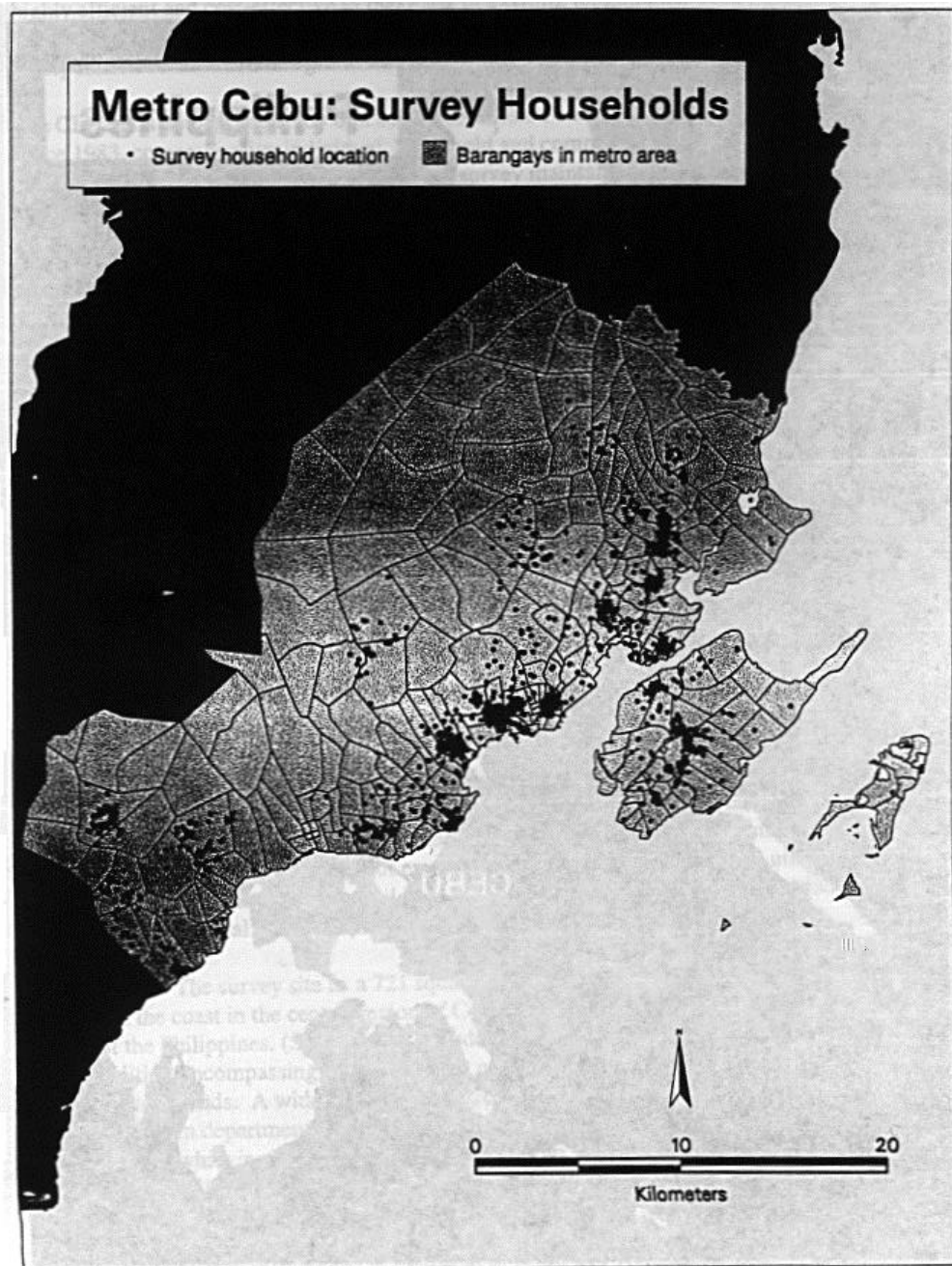
The CLHNS was originally designed as a survey of infant feeding practices, but was expanded to cover a wide range of issues related to maternal and infant health and nutrition. A diverse, comprehensive multipurpose survey was created and is being made available in public access data sets. The survey was designed by a multidisciplinary team of researchers from the Carolina Population Center, working in collaboration with the Office of Population Studies at the University of San Carlos in Cebu. The CLHNS differs from many other longitudinal studies in that it is an intensive *community based* survey of a cohort of women initially recruited into the study during a pregnancy. Ultimately the survey involved a dual focus on women and children. For women, the issues of particular interest included: maternal dietary intake and nutritional status during pregnancy and lactation; determinants of birth spacing; patterns of time allocation; work, including place of work, type of employment, hours and earnings; and utilization of health services and family planning. For children, the focus was on infant feeding, morbidity, mortality, growth and intellectual development.

The study site: The survey site is a 721 square km area known as Metro Cebu. Metro Cebu is located on the coast in the central region of Cebu Province, an island in the Central Visayas region of the Philippines. (See maps) It includes 3 cities (Cebu, Lapu Lapu and Mandaue) and 7 municipalities encompassing peri-urban and rural communities in the mountains, coastal areas, or on smaller islands. A wide range of ecological and socioeconomic diversity is found in the sample. Modern department stores and businesses co-exist with high density, poor urban housing areas, while in rural communities, single room houses made of traditional materials are inhabited by families maintaining subsistence farming or fishing lifestyles.

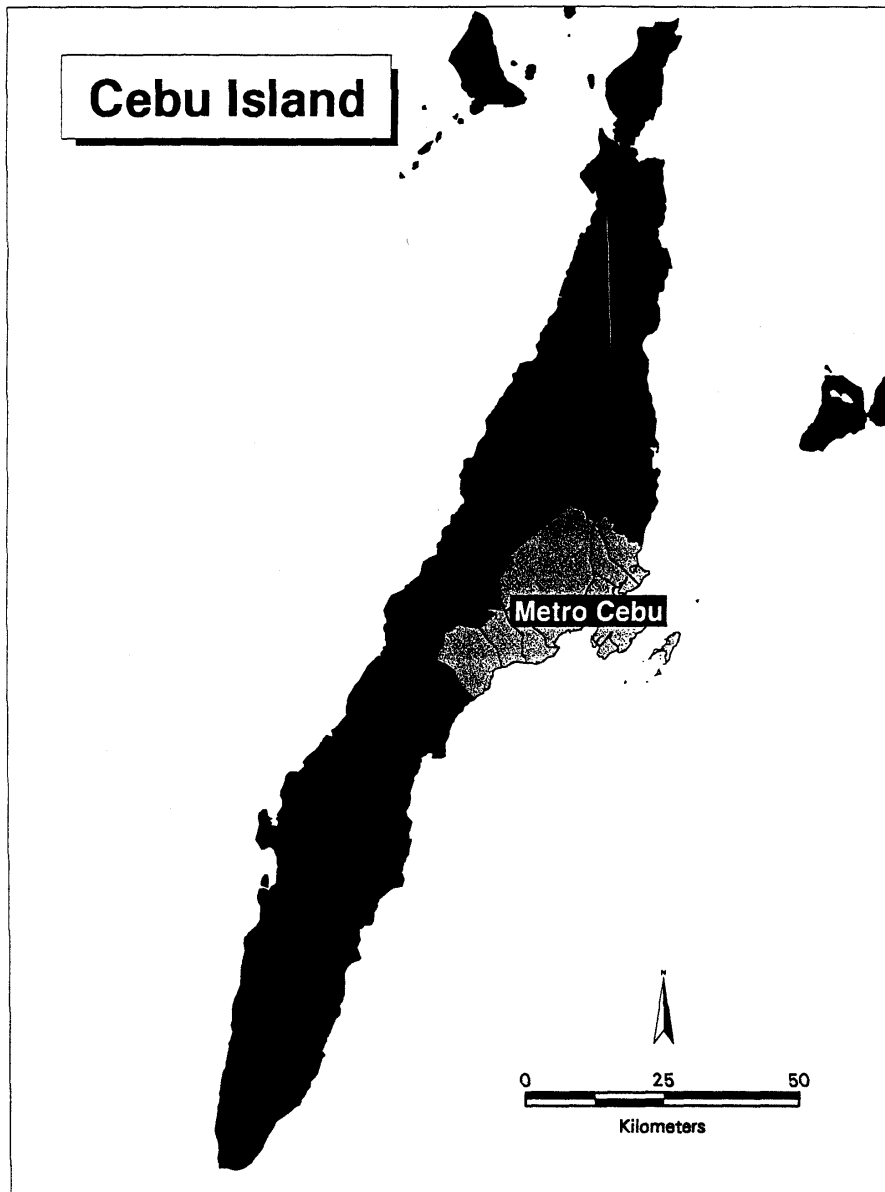
Map 1



Map 2



Map 3



In 1980, the enumerated census population of Metro Cebu was 941,968. By 1990, the population had grown to 1,266,919 and Metro Cebu was recognized as the most rapidly developing area of the Philippines (Flieger 1994). Development is enhanced by the extensive port facilities, an international airport, and a free-trade zone.

Provinces of the Philippines are divided into smaller administrative units called *barangays*. In rural areas, these typically correspond with villages, while in urban areas, *barangays* are similar to barrios or neighborhoods. Each *barangay* has its own local administration, primary schools and health stations. *Barangays* vary substantially in land area and population size. Metro Cebu included 243 *barangays* at the time of the 1980 census.

A. Survey design.

The survey began in 1983. Following an initial census conducted by OPS, 33 *barangays* (16 rural and 17 urban) were randomly selected for inclusion in the survey. Using house-to-house canvassing and key informants in the communities, all pregnant women in each of the selected *barangays* were invited to participate in the study. An attempt was made to include all women who gave birth in a one year period in the sample. Information was gathered through personal interviews conducted in the respondent's home. Interviewers recorded responses on questionnaires, and data were then coded and entered into a computerized data base.

A comprehensive baseline survey was administered when the women were in the 6th to 7th month of pregnancy. Follow-up surveys were conducted within a week of birth, then at bimonthly intervals until the 24 months postpartum.

In 1991, and again in 1994 an attempt was made to locate and interview all women who had participated in the baseline survey. Information was again collected using a structured questionnaire.

In 1994, 2 new components were added to the survey. First, 500 new subjects between the ages of 15 and 25 were recruited. These women were residents of the original 33 *barangays* of the survey, and the age composition of the sample was selected to represent *barangay* demographics based on census data. Second, a series of 3 in-depth interviews were conducted with a subset of CLHNS participants. These interviews were tape-recorded and transcribed into text files.

B. Sample

Table 1 presents sample sizes for selected time points in the survey. From the initial baseline sample of 3,327 women, 205 were not in the birth information survey because of migration from the study area, or refusal to participate. Among the 3122 women present at the birth information survey, an initial decision was made to follow only those who had single live births (n=3080), and of those women, no measurements were taken on 29. Twenty four months after giving birth to the index child, 2,555 women were measured. These included some women with stillbirths,

miscarriages or twins, who were not initially followed after birth, but were asked to return to the study sometime during the first 2 years.

Table 1. Sample size at selected time points in the CLHNS.		
	In Sample	Mom Measured
Baseline	3327	3327
Birth information	3122	3051
Longitudinal 12	2631	2555
1991	2395	2395
1994	2279	2279
Sample size by completeness of interviews (mom measured):		
	N	%
Baseline (BS) only	201	6.04
BS & birth information (BI)	367	11.03
BS, BI, Longi 12 (L12=2 yr. Postpartum	332	9.98
BS, BI, L12, 91	109	3.28
BS, BI, L12, 91, 94	2044	61.44
Missing one survey between BS & 94	249	7.48
Missing 2 surveys between BS & 94	25	0.75
Total	3327	100

The highest rate of loss to follow-up occurred early in the survey. Migration was more prevalent in the early to mid 1980's when the economic pressures related to the fall of the Marcos regime had their effects. Refusal rates were generally low, but declined most sharply after the birth information survey: the total number of refusals during the initial survey (to 1986) was 143. Loss to follow-up after the first 2 years of the survey was quite low: Of women present at the longitudinal 12 survey, 86% were interviewed in 1991. Of those interviewed in 1991, 94% were

interviewed in 1994. About 68% of women present at baseline were interviewed in 1994, and 61% of those in the baseline survey had complete data for the birth information, longitudinal 12, 1991 and 1994 surveys.

The in-depth survey. The sample for the 1994-95 in-depth survey consisted of 63 women who were long-term participants in the CLHNS. The in-depth sample was not selected to represent the CLHNS sample as a whole. Rather, it was purposively selected based on characteristics determined from earlier survey data to include users and non users of family planning, urban and rural residents and women of high and low parity. The in-depth interviews required that the women be available for a minimum of three 2-hour sessions. Thus, the final in-depth sample includes a disproportionate number of women who are not working long hours outside of the home. Table 2 presents characteristics of the in-depth sample.

Table 2. Selected sociodemographic characteristics of women in the 1994 indepth sample vs the full 1994 sample.				
	Indepth		Not indepth	
N	63		2216	
	Mean	S.D.	Mean	S.D.
Age	39.0	7.2	37.9	6.1
Education	6.4	3.3	7.4	3.8
Number of pregnancies	6.8	3.7	5.9	2.7
<u>Percentage:</u>				
Urban	50.8		73.1	
Home has electricity	66.6		79.7	
Home has TV	50.1		61.2	
Work for pay				

C. Sample selectivity

A number of aspects of sample selectivity require attention. First, it is important to note that the primary CLHNS sample is a sample of childbearing women. Further, it is likely to represent a more fecund population, since women were selected by being pregnant. Women ranged in age from 14 to 49 at the baseline survey, and thus by 1995, the sample no longer represents the childbearing years. This was the rationale for the inclusion of a new cohort of 15-25 year old women in 1995 survey. The *longitudinal* data are biased toward older maternal ages. However,

the data offer us the opportunity to view long term outcomes of childbearing across a wide age range and stages in the reproductive life cycle. Nonetheless, what we learn from this sample cannot be generalized to the female population as a whole.

Second, we need to consider whether the sample represents childbearing women of Cebu in particular and of the Philippines in general. This is best answered by comparing sample women with census data and with other national demographic survey data.

Census data available to us for analysis included a 5% sample of the 1980 Philippines Census. For comparison with CLHNS data, we used all ever-married Metro Cebu women aged 15-49, and a subgroup of ever-married women who had a live birth in the previous year. Table 3 shows that within the census sample, women who had a live birth in the past year are younger and tend to have higher age-specific parity than ever-married women in general. They do not differ in maternal education levels. CLHNS sample women are younger, have higher age-specific parity and have a slightly different distribution of maternal education level.

A discussion of selectivity in the in-depth sample is presented in appendix 1.

Table 3. Comparison of the CLHNS Sample with Women in the 1980 Census of Metro Cebu.			
	CLHNS Sample	1980 Census — 5% Sample	
	Women (Ever-Married with Live Birth)	Ever-Married women with Live Birth	All Ever-Married Women
N	3194	1525	6781
<u>AGE</u>			
15-19	12.7	6.8	4.2
20-24	31.8	29.4	17.3
25-29	28.7	31.4	21.6
30-34	16.8	18.1	18.3
35-39	7.4	9.5	14.6
40-44	2.4	3.8	13.3
45-49	0.2	1.0	10.7
Mean	26.1	27.4	32.2
<u>Education</u>			
None	1.8	2.8	3.9
Incomplete Elementary	27.4	29.0	27.2
Completed Elementary, Some High School	46.0	38.3	37.0
Completed High School, Some College	18.7	19.8	18.8
Completed College	6.1	10.2	13.1
<u>PARITY (%)</u>			
0	-	-	10.3
1-2	44.6	47.9	35.9

Table 3. (Cont)			
	CLHNS Sample	1980 Census — 5% Sample	
	Women (Ever-Married with Live Birth)	Ever-Married Women with Live Birth	All Ever-Married Women
3-4	33.4	29.4	27.7
5-6	13.1	14.4	15.4
7-9	6.9	6.6	8.3
10+	2.0	1.7	2.3
Mean	3.3	3.2	3.2
<u>MEAN PARITY BY AGE</u>			
15-19	1.4 (405)	1.2 (104)	0.7 (283)
20-24	2.2 (1015)	1.9 (448)	1.5 (1175)
25-29	3.2 (917)	3.0 (479)	2.4 (1463)
30-34	4.6 (535)	4.1 (276)	3.3 (1243)
35-39	6.3 (237)	5.6 (145)	4.2 (989)
40-44	8.1 (78)	6.7 (58)	4.9 (904)
45-49	8.0 (7)	6.7 (15)	5.1 (724)
Has TV	17.8	15.7	23.6
Has Refrigerator	6.6	11.2	17.7
Electric Lighting	49.8	45.1	54.1
Kerosene Lighting	49.9	53.9	44.7
Other Lighting	0.3	1.0	1.2

A second source of data for comparison comes from the 1993 Safe Motherhood Survey (SMS) conducted as part of the National Demographic Surveys (National Statistics Office, 1994). The SMS was a nationally representative survey designed to collect data on reproductive health. Comparison with the SMS sample is problematic, since the method of selecting the samples was different. SMS women were those who had at least one pregnancy outcome, while the baseline CLHNS included pregnant women, some of whom were pregnant for the first time. In table 4, we show data from the CLHNS baseline, and from the 1991 follow-up. The CLHNS sample, included more urban women than the SMS. CLHNS women were younger and of lower mean parity at baseline, reflecting the fact that 23% were primiparas. By 1991, the sample was on average, older than the SMS sample, reflecting the passage of CLHNS women through the life cycle. Fewer CLHNS women had no education, but fewer also had college level education compared to the SMS sample.

Table 4. CLHNS Sample women compared to 1993 Philippines Safe Motherhood Survey Sample.			
Characteristic	SMS sample	Cebu Baseline	Cebu 91
Sample size	8,481	3,327	2,395
Urban residence	51.7	76.8	73.8
Age group			
15-19	1.3	13.1	0
20-24	10.6	32.3	0
25-29	17.8	28.3	16.6
30-34	20.8	16.4	32.7
35-39	19.7	7.3	26.4
40-44	16.6	2.5	15.7
44-49	11.8	0.2	6.1
50+	1.3	0	2.5
# pregnancies			
1	11.7	23.1	1.7
2-3	33.7	20.4	41.8
4-5	26.7	21.3	36.9
6+	28.0	13.7	44.1

Table 4 (Cont)			
Characteristic	SMS sample	Cebu Baseline	Cebu 91
Education			
none	2.3	1.8	
primary	41.8	59.6	
high school	35.0	25.9	
some college	21.9	12.7	
Currently using modern contraceptive	25.4	0*	33.4
* all women were pregnant at the time of the survey			

Based on these comparisons, we clearly cannot generalize results of the study to all women, but it is reasonable to generalize to *childbearing* women in the Philippines.

Third, loss to follow-up may bias analysis. Table 5 compares baseline characteristics of women who remained in the survey versus those lost to follow-up. In general, those lost to follow-up are younger, more highly educated, more likely to be in the labor force, and of lower parity.

Table 5. Selected baseline sociodemographic characteristics of women in the 1994 sample vs those lost after baseline.				
	Lost between baseline and 1994		Present in 1994	
N	1048		2279	
	Mean	S.D.	Mean	S.D.
Age*	25.46	5.75	26.30	6.06
Education*	7.56	3.28	6.92	3.3
Household size*	5.34	2.85	5.67	2.76
Parity*	1.8	1.9	2.4	2.3

Table 5 (Cont)				
	Lost between baseline and 1994		Present in 1994	
Household income (pesos/wk)	298	659	275	451
Value of hh assets (pesos)	10072	34368	11563	49741
<u>Percentage:</u>				
Primiparous**	27.9		20.9	
Spouse present**	92.1		95.3	
Extended family**	42.9		37.2	
Working at baseline**	36.4		40.3	
*T-test, $p < .01$ **Chi square, $p < .03$				

In a wide range of analyses conducted with CLHNS data, researchers have explored whether loss to follow-up biases estimates of relationships among various dependent and independent variables. Heckman-type or similar selectivity models, have been used to look for bias, and none has been found in estimating pregnancy outcomes (Guilkey et al 1989) maternal nutritional status (Polhamus 1997) or patterns of work (Gultiano: Doctoral Thesis Work in Progress).

III. Methods

A. The quantitative survey

The CLHNS includes core modules that are part of all follow-up surveys, and unique modules tailored for each follow-up. Table 6 lists modules in the surveys. In addition, modules specifically designed to address issues of interest to the Women's Studies Project were added to the 1994-95 survey. Design of questions included in these modules was informed by the literature on women's status and autonomy, and focus groups conducted among Filipino women to tailor questions for cultural relevance. For example, we wanted to ask about how decisions are made for minor and major activities and purchases. Focus groups provided insight into specific items to ask about.

Table 6. List of survey modules related to mothers.				
Survey	BS	Longi 1-12	91	94
Household (composition,, housing, environment)	X	All	X	X
Income	X	L6, L12	X	X
Expenditures				X
Migration	X	All	X	X
Maternal diet	X	L1, L3, L7	X	X
Maternal anthropometry	X	All	X	X
Maternal morbidity	X	All	X	X
Family planning	X	All + L10 FP insert	X	X
Reproductive history	X		X	X
Activity		L1, L3, L7	X	X
Decisions				X

B. The qualitative survey

An interview guide for the qualitative survey was developed to provide in-depth information on decision making, family planning, desired family size, work, concepts of status. A copy of the in-depth interview guide is included as appendix 1. The most experienced field workers at OPS were selected to conduct in-depth interviews. These interviewers had already established rapport with respondents; this was considered critical for the collection of highly personal and sometimes sensitive information. In-depth interviews were conducted in 3 sessions that lasted an average of 2 hours each. Interviews were tape recorded and later transcribed and entered in The Ethnograph to facilitate analysis. A separate report by Josephine Avila will present results from the in-depth interviews.

IV. Results

A. Socio-Demographic characteristics of the sample in 1994-95, and trends since 1983

Demographic characteristics of CLHNS women in 1995 reflect the movement of the cohort through the reproductive life cycle. Table 7 presents characteristics of women in the 94 survey, and includes comparable characteristics of the same women at baseline and 1991.

Table 7. Sociodemographic characteristics of 1994 sample women: changes over time.			
	Baseline	1991	1994
Age (yr)	26.3 ± 6.1 (15-47)	35.5 ± 6.1 (25-57)	38.0 ± 6.1 (25-59)
Highest grade completed at baseline	7.1 ± 3.3	6.94 ± 3.31	6.92 ± 3.31
Household size (# persons)	5.7 ± 2.8	6.8 ± 2.3	7.0 ± 2.4
Living in urban area (%)	72.9	73.8	72.4
Household has electricity (%)	47.1	72.7	79.4
Household has piped water (%)	6.2	31.1	33.8
Own TV (%)	17.6	51.4	61.0
Mom works for pay (%)	46.5	73.9	77.2
Hours worked per week	41.5 ± 23.9	44.2 ± 27.8	42.2 ± 25.5
	(N=1051)	(N=1670)	(N=1772)

In 1994, Women ranged in age from 25 to 59, and the median age was 37. Most (93.6%) women were married: 69 (3.0%) were widowed, and 62 (2.7%) were separated from their spouse. Only 111 4.9% were pregnant, and 289 (12.7%) were breast-feeding at the time of the interview. A majority (71%) lived in single family households, while the remaining 29% lived in extended families or multiple family households. 9.2% of women reported being head of the household.

Mean number of persons per household increased from baseline to 1991, but was similar in 1991 and 1994-5. There was a tendency for fewer women to be living in extended family households. This most likely represents a normal family life cycle change. As young families gain financial security, they tend to move into their own nuclear family household. As the women in the sample continue to age and their children marry, we may see more extended families again, as their grandchildren become part of their households.

Modernization is evident in the increase in the percentage of households with electricity and piped water, as well as an increase in the percentage of households owning appliances such as televisions, electric fans and refrigerators. Of the 61% of households who owned a television, nearly two thirds had a color television.

B. Health and nutritional status

Only 2.5% of women reported their general health to be “not good”, while the remaining women reported their health to be good or normal. When asked about their physical limitations and abilities, 97.3% of women said they could still do chores without any limitation, 99.5% said they could still take care of their children. The number of women who reported suffering from a chronic disease at the time of the survey or within the past 3 years was relatively small: 34 reported diabetes, 161 heart disease, 6 cancer, 18 tuberculosis, 106 goiter, 161 anemia.

Table 8. Dietary intake and nutritional status of 1994 sample women: changes over time.			
	Baseline *	1991	1994
Energy Intake (kcal)	1419 ± 553	1717 ± 627	1366 ± 625
% calories from fat	11.5	10.4	15.8
Height	150.4 ± 5.0	150.5 ± 5	
BMI (kg/m ²)	20.7 ± 2.6	23.0 ± 3.7	23.2 ± 3.9
% obese (BMI>30)	0.5	5.0	5.8
% overweight (BMI>25)	6.4	25.6	23.0
% underweight (BMI<18.5)	18.9	9.0	10.4
*Weight at 2 months post-partum used to calculate BMI, dietary intake represents mean of 3 determinations at 2, 6 and 14 months postpartum			

Table 8 presents information about dietary intake and nutritional status of sample women. Dietary energy intakes of sample women are low relative to the Philippines RDA. The RDA for the average nonpregnant, moderately active 20-39 year old woman weighing 49 kg is 1900 kcal: the mean intake of sample women in this age range represents about 75% of the RDA. Energy intakes of women over 40 are about 71% of the RDA. Throughout the CLHNS, we have found mean dietary intakes of energy and other nutrients (except protein) to be lower than the Philippines RDA.

Energy and fat intakes vary by age, with younger women having significantly higher intakes than older women (Table 9). Urban women consume on average, 280 more kcal, and 11 g more protein per day. They consume, on average, 17.6% of calories from fat, compared to only 11.1% in rural women. Dietary intakes vary substantially by family income (Table 10): intakes of energy, fat and protein are highest in the top income quartile, and lowest in the bottom income quartile. Dietary fat intakes more typical of the “Western” high-fat diet (>30% of calories from fat) are disproportionately found in higher income households. Energy intakes do not vary by women’s work for pay status.

Table 9. Nutritional status varies by maternal age.				
Age (1994)	<30	30-39	40-49	50+
N	117	1328	721	113
% Obese (BMI >30)	4.3	5.7	6.0	7.1
% Overweight (BMI>25)	20.5	22.8	23.6	24.8
% Underweight (BMI<18.5)	12.8	8.1	12.3	22.1

Table 10. Women’s dietary intake and nutritional status varies by household income.								
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Energy intake (kcal/d)	1158	536	1345	654	1391	581	1568	652
Protein intake (g/day)	36.7	19.2	43.7	23.2	47.7	23.5	55.1	30.9
% calories from fat	11.4	10.4	14.4	10.9	16.1	11.1	21.1	13.8
BMI (kg/m ²)	22.2	3.6	23.0	3.7	23.3	3.9	24.5	4.1
Triceps skinfold (mm)	15.2	5.8	17.1	6.0	17.7	5.9	20.0	6.0
All interquartile differences are statistically significant (ANOVA, P<.01) with the exception of Q2-Q3 BMI and triceps skinfolds.								

Anthropometric indicators of nutritional status show similar trends. Table 9 shows that older women are significantly heavier and fatter than younger women, and have a higher prevalence of overweight and obesity. At the same time, the prevalence of chronic energy deficiency, evidenced

by a body mass index (BMI) less than 18.5 is highest among older women. Thus we see the highest rates of both over and undernutrition in this older age group.

Changes in women's nutritional status across the surveys reflect age trends within the cohort and secular trends in diet and activity in the Philippines. There were also differences in methods of assessing dietary intake. Dietary intakes were estimated using 24 hour recalls during the original survey and in 1995, while the 1991 survey used a detailed quantitative food frequency which tends to overestimate energy intakes when a large number of food items are included. It is not possible to identify the relative contribution of each of these sources of variation to changes over time. However, it is apparent from the age differences within each survey, that a large portion of the difference in total energy intake and BMI is related to age.

Energy intakes are lower in 1995 than at earlier points in time, but percentage of calories from fat increased. The prevalence of overweight and obesity increase over time. The observed age and time trends are typical of developing countries undergoing what Popkin (1997) has termed the nutrition transition. In countries undergoing rapid modernization, there is a shift toward decreased physical activity and higher fat, more "western" diets, leading to an increase in the prevalence of obesity and chronic diseases in higher socioeconomic status segments of the population. At the same time, and relating to substantial income disparities, there remains a segment of the population at risk of undernutrition. This is clearly shown in Cebu by the income-related differences in BMI and dietary fat content, the increase in the prevalence of obesity, and the maintenance of significant levels of chronic energy deficiency among sample women.

C. Fertility and family planning

Knowledge and use of family planning. By the time of the 1995 survey, women had experienced on average, a mean of 5.9 pregnancies, with a range of 0-18, and a median of 5. Number of pregnancies and incidence of stillbirth and miscarriage increased significantly with age (see Table 11). Only 38% of women over 50 had not lost at least one child born alive, and 46% of women in this older age group reported a prior stillbirth or miscarriage.

Table 11. Mean number and outcome of pregnancies by age group.				
Age category	<30	30-39	40-49	50+
# pregnancies	4.8	5.2	7.0	9.0
# children still living	4.1	4.4	5.8	7.2
# children who died	.29	.35	.61	1.23
# stillbirths or miscarriages	.39	.47	.63	.73

Prior to asking questions about current use of family planning, women were asked whether they were still able to bear children and whether they were currently pregnant. Those still capable of childbearing, and not currently pregnant were asked about current use of family planning. Table 12 presents age, education and gravidity of women categorized by current fertility status.

Table 12. Family planning and fertility status.				
	N	Age	Highest Grade	# Prior Pregnancies
No longer able to bear children (n=610)				
Post menopause	152	49.9	5.2	8.6
Infertile because of health	26	41.8	7.8	6.5
Ligated	432	38.4	8.4	5.5
Still able to bear children (n=1669)				
Currently pregnant	111	34.9	6.7	6.0
Not using any FP method	659	37.8	7.0	6.1
Pill	157	33.3	7.3	5.0
IUD	187	35.1	6.8	5.3
Injection	10	33.9	5.6	6.9
Condom	23	35.4	7.7	4.6
Vasectomy	34	37.6	6.0	4.7
Rhythm, withdrawal, foam, other	380	37.4	7.7	5.9
Combination (e.g., rhythm + withdrawal)	108	37.6	9.0	5.4

Just over one quarter of sample women reported that they were no longer able to bear children. Of these 610 women, the majority (71%) had undergone tubal ligation, and 25% were post-menopause. Reasons for infertility differed markedly as a function of maternal age. Mean age of menopausal women was close to 50, and nearly 87% of women over 50 reported being no longer able to bear children, primarily because of menopause. Only 26 women attributed their infertility to health reasons.

Ligation is a fairly popular method of fertility control in the Philippines. Ligated women were younger and more educated than other women no longer able to bear children. Among the 432 ligated women, 44% had their ligations immediately after giving birth in a hospital or clinic, while the remainder were ligated at a time unrelated to birth. Ligated women had a median of 5 pregnancies (range 1-18) prior to ligation. Reasons given by women for their ligations included not wanting (40.5%) or not being able to afford (30.1%) more children, a history of difficult delivery (16.7%), a health condition (6.1%), prior cesarean delivery (5.3%) or ectopic pregnancy (1.1%). Women who indicated that they had elected ligation because of health reasons were older and had more pregnancies prior to ligation than those ligated for other reasons (ANOVA, $p < 0.01$). Education levels did not differ by reason for ligation. Total household incomes of women who said they couldn't afford more children were not significantly lower than those of women who elected ligation for other reasons.

Among the 1669 women reporting that they were still able to bear children, 111 were pregnant at the time of the survey. Their mean age was 34.8 years. Sixteen women over 40 were pregnant. A large proportion (39.5%) of the group still able to bear children were not currently using any family planning method. Among family planning users, the most prevalent methods were natural or traditional (e.g. rhythm, withdrawal). Eleven percent of women still able to have children were using an IUD, while about 9% were using oral contraceptives. Use of injections (Depo Provera) was rare, and no women were using implants.

Current method use varied by age, with use of modern methods being more prevalent among younger women. Mean education levels were highest among ligated women and those using less effective methods. Number of prior pregnancies was lowest among women using modern methods, also reflecting their younger age.

All women were asked about their knowledge and history of use of family planning using the format found in the Demographic and Health Surveys (DHS). Women were first asked to enumerate family planning methods they knew, then were asked whether they had heard of other methods which they did not mention spontaneously. Percentage of women who reported knowledge of and ever using specific family planning methods is presented in Table 13.

Table 13. Knowledge and use of family planning.				
	% with knowledge of method			
Method	Heard of, mentioned spontaneously	Heard of when prompted	Never heard of method	% who ever used method
Pill	87.8	11.5	0.4	42.7
IUD	77.7	21.5	0.6	25.4
Injection	37.4	43.4	19.2	2.9
Implant	0.2	3.7	96.1	0
Diaphragm	0.8	9.6	89.6	0.04
Foam, jelly	4.3	17.2	78.5	1.6
Condom	65.6	33.7	0.7	28.1
Ligation	52.0	47.5	0.5	19.4
Vasectomy	17.2	80.9	1.8	1.9
Rhythm (calendar)	65.1	32.9	2.1	39.1
Rhythm (symptoms)	2.9	22.5	74.6	1.0
Withdrawal	32.1	63.9	4.0	36.1
LAM	2.2	39.7	58.1	15.5
Abstinence	1.5	35.1	63.4	6.1
Other*	13.6	3.5	83.0	3.9
Never used				13.0

Among the best known methods were the pill, IUD, rhythm (calendar), condom and ligation, all of which were mentioned spontaneously by more than 50% of women. While vasectomy was rarely mentioned spontaneously by women, most had heard of it. Methods that were not well known, even when prompted, included diaphragm, foam or jelly, implants, and rhythm based on symptoms. Further, relatively few women thought of abstinence as a family planning method. The “other” methods most often cited by women included traditional methods such as use of

herbal medicines or uterine massage. The methods that women most often reported having ever used were (in order of decreasing frequency) the pill, rhythm by the calendar method, withdrawal, condom, IUD, and ligation. No women reported ever using implants, and use of diaphragms, foam and jelly, and rhythm based on symptoms were rare, in parallel with lack of knowledge of these methods.

Only 13% of sample women had never used a family planning method. Reasons offered by these women for not using family planning are presented in table 14. Anticipated side effects was the reason most often cited for non-use in these women, followed by husband's objection to use of family planning (12.5% of those who never used). Lack of knowledge or access to family planning was not cited by any women as a reason for not using.

Table 14. Reasons for not using among women who never used family planning.		
Reason	# women	% of non-users
Anticipated side effects	118	39.9
Wants additional children	15	5.0
Does not easily get pregnant	27	9.1
Too old to get pregnant/no longer capable	5	1.7
Health condition	7	2.3
Husband objects	37	12.5
Husband absent (never married, widowed, separated)	20	6.8
"Children are gifts from God"	17	5.7
Inconvenience	2	0.7
Not familiar with methods	10	3.4
Does not believe in FP	1	0.3
Cannot use preferred method	1	0.3
Combination of reasons	36	12.2

To simplify further analysis, methods were grouped to represent "modern" methods (pill, IUD, injection), "barrier" methods (condom, foam/jelly, diaphragm), sterilization (ligation or vasectomy), and "natural" methods (all others). Dummy variables were created to represent use in each of these categories, and a pattern variable indicating combinations of use was created from

these dummy variables. Frequencies of these summary and pattern variables are presented in table 15.

Table 15. Patterns in women's history of family planning use.						
Percentage of women who ever used:						
Modern	54.8		Sterilization	21.2		
Natural	61.2		Barrier	28.7		
Patterns of method use (ever used)						
Method(s)	#	%	# pregs	age	Education ¹	Husband disapproves
None	290	12.7	6.8	40.2	5.6	56.9
Natural only	364	16.0	6.3	39.4	6.6	18.5
Barrier only	22	1.0	6.5	40.4	7.2	36.4
Sterilization only	117	5.1	4.9*	38.6	7.0	15.5
Modern only	291	12.8	5.5*	35.5	6.9	14.1
Natural + sterilization	62	2.7	5.1*	37.6	8.2	16.1
Natural + barrier	128	5.6	5.9	38.5	8.4	13.4
Natural + modern	344	15.1	5.8*	36.3	7.7	10.5
Barrier + sterilization	10	0.4	5.8	38.9	6.7	20.0
Modern + sterilization	83	3.6	5.9	39.4	7.7	10.8
Modern + barrier	51	2.2	6.0	36.2	7.5	9.8
Modern + natural + sterilization	73	3.2	5.7	36.9	8.9	9.7
Modern + barrier + natural	305	13.4	5.9	37.5	8.1	6.6
Modern + barrier + sterilization	20	0.9	5.4	38.4	8.8	10.0
Barrier + natural + sterilization	38	1.7	5.3*	39.1	9.1	15.8
All	81	3.6	5.6	37.8	9.2	11.1
	2279	100	5.9	38.0	7.1	18.3
¹ Highest grade completed * Number of pregnancies significantly different from non-users (ANOVA, p<.05)						

About 61% of sample women had ever used a "natural" family planning method, while nearly 55% had used modern methods. Over half (52.4%) of women had used multiple methods in their life time. What is remarkable, however, is that despite differences in history of use of family planning method, there are relatively few differences among the categories of use in mean number of pregnancies, which range from a low of 4.9 in the sterilization-only category to a mean of 6.8 among non-users. The mean in all categories except sterilization only is above 5 pregnancies. A one-way analysis of variance with Bonferroni option to identify which specific comparisons are different reveals very few significant differences in number of pregnancies by category of use. The significant differences are limited to no use of family planning compared to sterilization, sterilization plus natural methods, modern methods only, modern plus natural methods and modern plus barrier plus natural methods.

Differences in maternal education among groups of women with different history of use are more striking, though inconsistent. More highly educated women tend to be more likely to have used multiple methods, at least one of which is modern. The lowest mean age of women is found among those who reported using only a modern method.

Women were asked whether their husbands approved of family planning. Responses were categorized as "approves in general", "approves only of natural methods", and disapproves. As can be seen in the table, while about 18% of women overall stated that their husband disapproved of family planning methods, about 57% of married women who never used family planning said their husband disapproved of family planning. However, despite their husband's view, only 12.5% of non-users stated husband's disapproval as their main reason for not using family planning.

Of interest are the women who say that their husband disapproves of family planning (n=414), but who nonetheless have used one or more methods. These 257 women, have used mostly natural family planning methods, but are also found in other categories of use. These "dissenters" were less likely to report current use (100 were not using a family planning method at the time of the survey,) but 62 had been ligated, and 27 were currently using modern methods. The "dissenters" were significantly older but less educated than family planning users whose husbands approved of family planning.

Family planning and fertility. Because of the lack of major differences in mean number of pregnancies by category of ever use, along with the variation in patterns of use by age and educational status, we explored the relationship of history of family planning use to total number of pregnancies using linear regression models. Results are presented in table 16. In model 1, we included only dummy variables representing each category of family planning use. In model 2, we added mother's age at first birth, current age, highest grade completed, household income, rural residence and current marital status. In model 1, use of modern methods and sterilization were significantly negatively associated with number of pregnancies, while use of barrier and modern methods had no significant effect. History of family planning use explained only about 1% of the variability in number of pregnancies.

Table 16. Relationship of family planning use to number of pregnancies: Results from linear regression models, with total number of pregnancies as the dependent variable.				
	Model 1		Model 2	
Variable	Coefficient	T-value	Coefficient	T-value
Ever used MODERN METHOD	-0.37	-3.12	0.109	1.2
Ever used STERILIZATION	-0.62	-4.37	-0.586	5.5
Ever used BARRIER METHOD	-0.03	-0.16	0.085	0.4
Ever used NATURAL METHOD	-0.09	-0.69	0.203	2.18
Age at first birth			-0.39	-27.2
Current age			0.29	35.8
Education (highest grade completed)			-0.10	-7.71
Household income (per 1000 pesos)			-0.072	-1.3
Rural residence			0.38	3.9
Currently married			0.60	3.4
R ² for model 1 (family planning use only) = 0.011 R ² for model 2 (family planning + other covariates) = 0.47				

Model 2 shows that the effects of family planning history are modified by controlling for other factors. As expected, there is a strong inverse association of maternal education and age at first pregnancy with number of pregnancies, and a strong positive association of current age, rural residence and being married with number of pregnancies. Household income was not associated with number of pregnancies. Sterilization remained significantly negatively associated with number of pregnancies, and after controlling for demographic variables; ever use of natural methods was positively associated with number of pregnancies. Barrier and other modern methods had positive coefficients, but were not statistically significant. Together, these variables explain about 47% of the variability in number of pregnancies.

Overall then, history of family planning use explains relatively little variation in number of pregnancies. This may reflect ineffective or inconsistent use, or a high level of method failure. The results also suggest that use of family planning is a reactive rather than a pro-active strategy, that is, many women elect to use family planning after having a substantial number of pregnancies.

In either case, these findings complicate the examination of the effects of family planning on women's lives, and suggest that a different approach to the issue is warranted.

Rather than look at use or non-use of family planning, we elected to examine variation in actual number of pregnancies experienced by sample women. We defined 3 categories based on an examination of the distribution of number of pregnancies in the sample: 3 or less, 4-6, 7 or more. Table 17 presents characteristics of women in these fertility categories.

Table 17. Characteristics of CLHNS sample women with differing numbers of pregnancies.			
	# Pregnancies		
	1-3	4-6	7+
Number of women	397	1093	789
% of sample	17.4	48.0	34.6
Mean Number of pregnancies*	2.56	4.91	8.96
Age* (1994)	35.6 ± 4.8 (S.D.)	36.7 ± 5.5	41.0 ± 6.3
Age at first birth	22.3 ± 4.1	20.8 ± 3.6	19.9 ± 3.1
Highest grade completed*	9.2 ± 3.8	7.8 ± 3.7	5.7 ± 3.3
<u>Work pattern: Percent</u>			
Not working or unpaid family worker	23.4	28.5	32.8
Wage worker	29.7	21.2	17.8
Piece worker	14.1	17.4	15.2
Self-employed	32.8	32.9	35.1
Median earnings of workers (pesos/wk)**	151	92.3	73.1
Median hours/wk of workers*	44.0	39.7	35.0
* All intergroup comparisons are statistically significant at p<.01 (ANOVA)			
** Pregnancy category 1-3 different from all others (p<.01), 4-6 not different from 7+			

Women with 3 or fewer pregnancies comprise about 17% of the sample. These low fertility women are younger (and thus some are likely to have subsequent pregnancies); more highly educated; and more likely to be working for pay, particularly in the wage sector. Among those working for pay, median weekly earnings are significantly higher among those with 3 or fewer

pregnancies compared to those with 4 or more. Those with 4-6 pregnancies did not differ significantly in earnings from those with 7 or more pregnancies. Women with fewer pregnancies also worked significantly more hours. Women with 1-3 pregnancies were on average, 2.4 years older at their first birth compared to women with 7 or more pregnancies, and 1.4 years older than women with 4-6 pregnancies (ANOVA, $p < .001$). This is consistent with multivariate results shown in table 16. Women with fewer pregnancies had significantly higher levels of education, which in turn is likely to make them more effective users of family planning, or users at earlier stages in their reproductive lives.

We were interested in determining the degree to which lower fertility in this group represented a deliberate choice. Among the 397 women with 3 or fewer pregnancies, 74 had been ligated, and 10 were no longer to bear children for other reasons. Sixteen were currently pregnant, and 162 reported current use of family planning. Of interest were 50 low fertility women who had never used family planning. In this group, women who were never married, widowed or separated were disproportionately represented compared to women in higher fertility groups. In this group of low fertility non-users of family planning were included 17 women who wanted additional children, and 15 who claimed to not easily get pregnant. The distribution of current method use (other than ligation) did not differ among the fertility groups.

Of the women in the survey still able to bear children, and who gave answers about their and their husband's desire for additional children ($n=1558$), 73% stated that they did not want any more children. There were 214 cases where the woman stated that her husband wanted more children, but she did not; 29 cases where she wanted more but he did not; and 171 cases where both were in agreement about wanting more children. There is likely to agreement about wanting more children when family size is small. In the group with agreement about wanting more children, 19% of the women were pregnant, and more than half were not using any family planning method. In the group where the woman wanted more children but her husband did not, 17.2% were currently pregnant. Six percent of women who agreed with their spouse that they wanted no more children were pregnant, and two-thirds were using family planning.

Birth spacing and family planning use during subsequent pregnancy intervals. Family planning may have an important effect on women's lives if it increases birth intervals. During the 1991 and 1994 CLHNS follow-up surveys, women were asked to provide a complete reproductive history. This included a record of the month and year of each pregnancy termination or birth, pregnancy outcome (live birth, still birth, miscarriage) and current vital status of the child born. Women were also asked to recall whether or not they used family planning during each pregnancy interval, and the method they used for the longest duration in the interval. The time period over which women were asked to recall these events varied substantially. Older, high parity women were asked to recall events that may have occurred more than 20 years ago. Thus, there is likely to be some recall bias. Month of live births is likely to be accurately reported, but some women were unable to recall the exact month of miscarriages. Thus, there are more missing data on intervals that included miscarriages. Recall of family planning method may also be somewhat biased.

Report of not using family planning may reflect actual behavior. However, since family planning users were only asked to identify the method they used for the longest duration during the interval, we may not have an entirely accurate representation of all methods used.

Table 18 presents descriptive statistics on birth intervals. Mean birth interval length increased with each subsequent pregnancy, up to the fifth pregnancy, then declined (see also figure 1). The median birth interval of about 2 years is quite stable from pregnancy 3 to 7. As can be seen by comparing means and medians, the data are highly skewed, such that means are up to 5 months longer than medians. The skewness remains if we restrict our analysis to intervals including only live births, so it cannot be attributed to the presence of short intervals associated with miscarriages.

Table 18. Intervals between subsequent births or pregnancy terminations.									
			Outcome			Birth Interval			
Preg #	# cases	# cases w/known interval	Live birth	Still birth	Miscarriage	Median	Mean	SD	Range
1	2279	2279	2108	35	136	0	0		
2	2248	2186	2107	13	128	21	24.9	15.6	1-173
3	2135	2074	1955	18	162	24	28.6	17.8	2-139
4	1881	1818	1718	17	146	25	30.1	18.8	2-186
5	1485	1431	1339	19	127	25	30.2	18.1	2-141
6	1096	1053	970	14	112	25	28.8	16.7	1-164
7	789	761	705	11	73	25	28.8	17.0	3-139
8	525	507	471	10	44	23	27.2	15.9	2-138
9	362	350	324	8	30	22	25.5	14.9	3-115
10	242	231	218	3	21	24	26.3	14.5	2-99

Table 18 (Cont)									
			Outcome			Birth Interval			
Preg #	# cases	# cases w/known interval	Live birth	Still birth	Miscarriage	Median	Mean	S.D.	Range
11	166	156	142	1	23	21	25.1	15.3	3-99
12	109	104	97	1	11	25	23.3	12.4	3-92
13	70	67	55	1	14	22	25.0	15.0	2-61
14	38	35	34	0	4	23	25.77	11.9	3-54
15	18	17	14	0	4	20	22.0	12.2	5-53
16	13	13	12	0	1	22	25.4	13.4	11-54
17	3	3	2	0	1	26	20.7	14.7	4-32
18	2	2	1	0	1	27	27.5	6.3	23-32

Family planning methods used during subsequent birth intervals are shown in table 19, and summarized in figure 2. It is important to put these data into an appropriate context. Since the interval is defined by a subsequent birth, those women who ceased childbearing are not represented. Thus, sterilization will not be represented in the data, since ligated women are unlikely to have a subsequent pregnancy. Methods were categorized as modern (pill, IUD, injection); barrier (condom, foam), or natural (rhythm, withdrawal, breast-feeding, other). Data are presented for the first 8 intervals, since fewer than 500 women had more than 8 pregnancies, and family planning methods were used by less than 25% of these high fertility women. Caution is needed in interpreting the results in this table. The population of women represented in each subsequent interval is declining as women of lower fertility drop out. The percentage of women using no family planning first decreases, then increases with subsequent birth intervals. Habitual non-users are more likely to be represented in the higher birth intervals, and some women may begin using family planning in response to their high fertility.

Table 19 shows methods used in subsequent pregnancy intervals among the 1485 women who had data for 5 intervals. Thus, the comparisons for each interval are for the same group of women. Overall, the percentage of non-users in this group is lower in the earlier intervals, reflecting the “drop out” of women in lower fertility categories represented in table 19a. However, comparing behaviors in the same sample, we can see the decline in non-users, and a steady increase in the percentage of women using modern and natural methods. Use of barrier methods is quite low,

and changes little. The increase in use of effective methods with increasing number of pregnancies supports the notion that family planning is a reactive strategy,

Figure 1

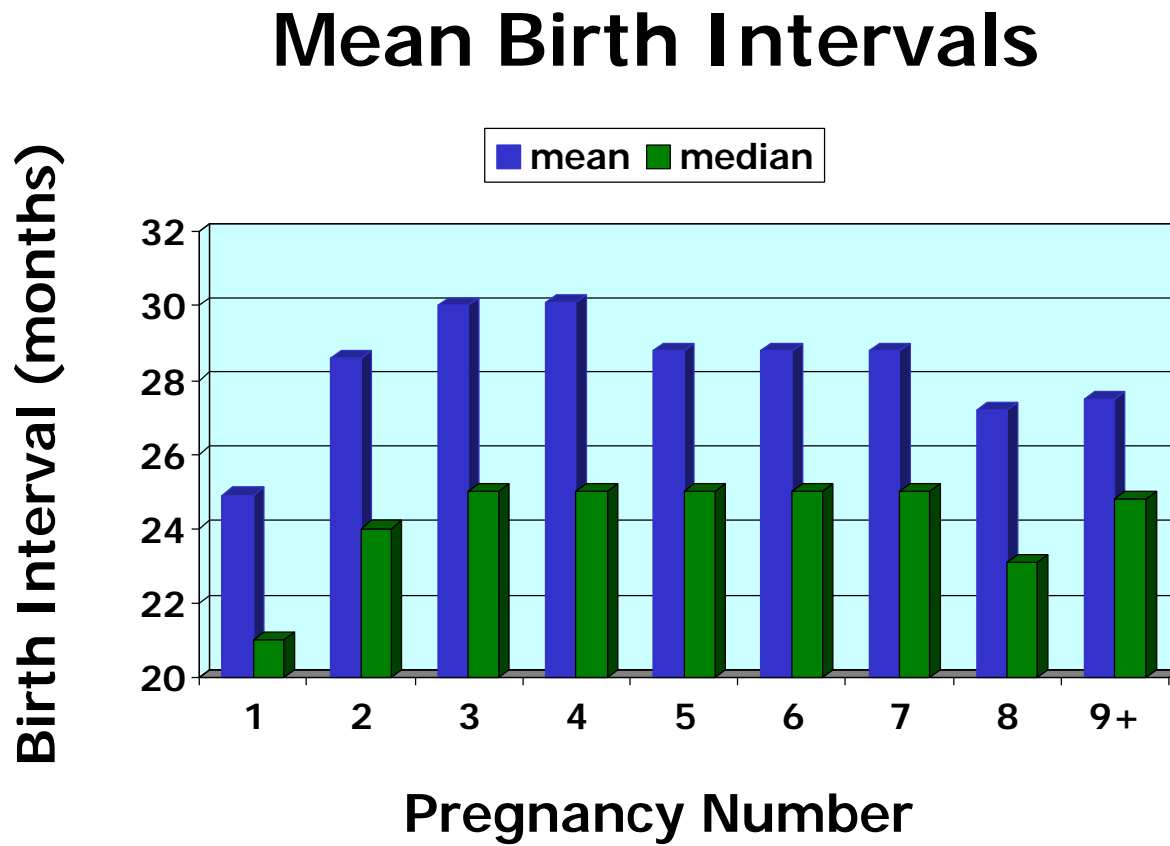
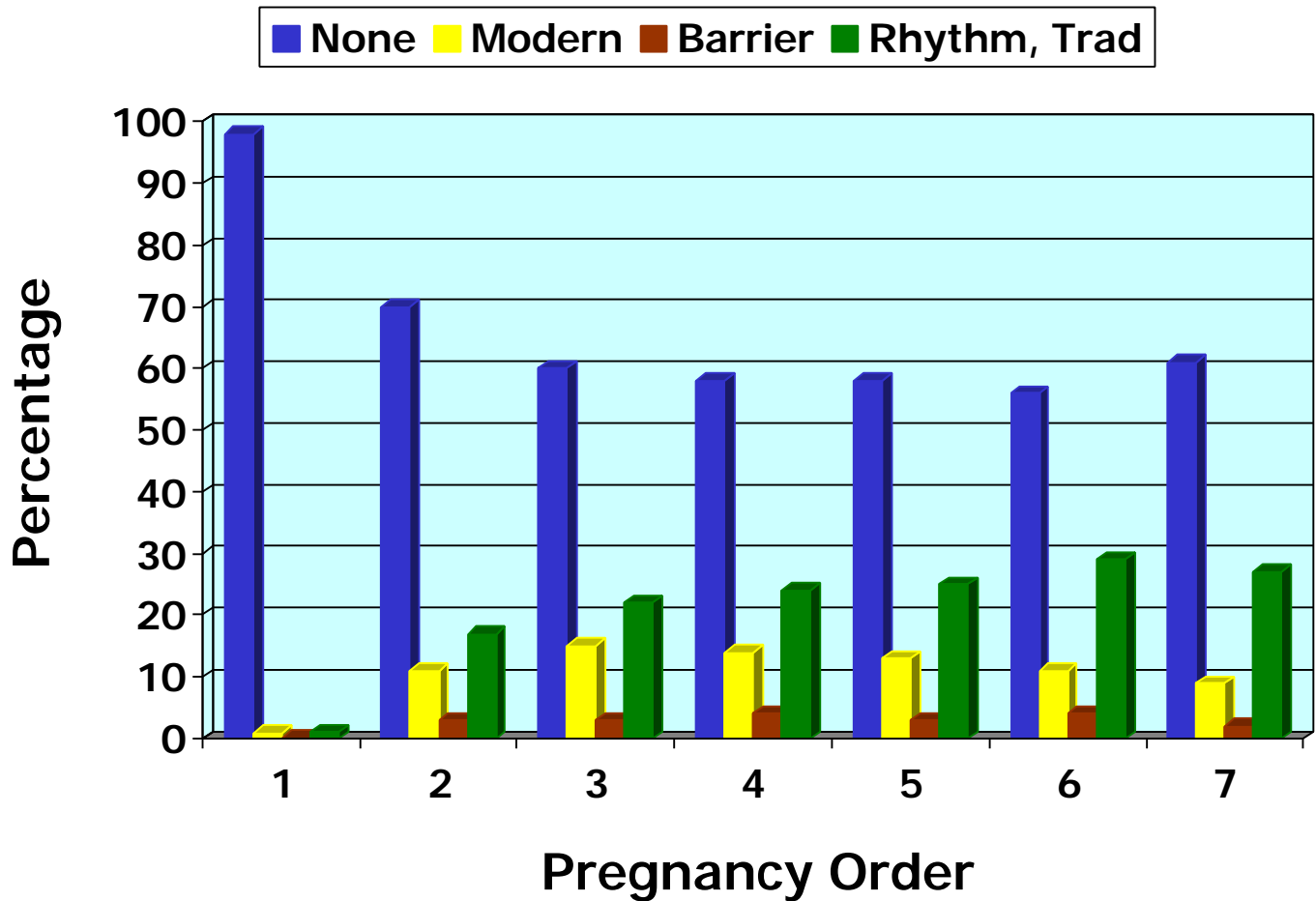


Figure 2

Family Planning Use Between Pregnancies



or that more effective family planning methods are adopted when desired family size is attained (or exceeded).

Table 19. Family planning method used “for the longest duration” during each pregnancy interval.				
	Percent using:			
Interval	None	Modern	Barrier	Natural
All Women				
0-1	98.0	0.9	0.1	1.0
1-2	69.5	10.6	2.7	17.1
2-3	59.7	14.7	3.0	22.5
3-4	58.1	14.0	3.5	24.2
4-5	57.8	13.1	2.8	25.9
5-6	56.3	11.4	3.4	28.6
6-7	61.3	9.3	1.9	27.4
7-8	68.4	7.1	1.1	23.4
1,485 Women with data for 5 pregnancies				
0-1	98.8	0.6	0	0.6
1-2	76.8	6.9	2.3	13.9
2-3	67.3	10.2	2.9	19.6
3-4	61.5	12.4	3.2	22.7
4-5	57.8	13.1	2.7	25.9

Among the women with data on 5 intervals, discounting the first interval where use was very low, 42.4 % reported no use of family planning in any of the next 4 intervals. Consistent use of the same method in each interval was rare. Only 14 women reported using modern methods in each interval, no women reported predominant use of barrier methods, and 101 women reported predominant use of natural methods.

Table 20 presents mean closed birth intervals among women according to their report of the family planning method used during the pregnancy interval for the first 5 intervals. Non-users

have significantly longer birth intervals than users of modern as well as natural family planning methods in each interval, but there are no differences in interval length between users of barrier methods (an infrequent patterns) and non users. The differences in birth interval length among users and non-users of family planning are large, especially after the second child. Note that among users of modern family planning methods, mean intervals are more than 13 months greater than non-users; while even among users of natural methods, intervals are 5-7 months longer. These differences are likely to have important consequences for maternal and infant health and well-being.

Table 20. Mean birth intervals in women reporting no use of family planning versus those using modern, barrier or natural methods.								
	Non-user		Modern		Barrier		Natural	
Interval	n	months	n	months	n	months	n	months
1-2	1512	23.5	230	29.6*	61	23.1	382	28.1*
2-3	1235	24.3	305	41.1*	663	27.5	469	31.8*
3-4	1046	26.1	257	39.6*	66	28.7	444	33.9*
4-5	822	26.8	187	39.1*	40	26.6	376	33.1*
5-6	586	25.9	122	37.6*	36	28.4	305	30.5*
* significantly different from non-users, ANOVA, $p < .001$								
Note: Women were asked to name the method they used for the longest time during that pregnancy interval.								

Trends in family planning use over time. Table 21 presents patterns of current use of family planning ascertained during the L10 survey (20 months after the index child birth, for most women, in 1985-86), in 1991 and 1994-95. As is the case with other characteristics, changes in the prevalence of use of various family planning methods over time reflects aging of the population. We have tracked women in the CLHNS over a 12 year period of their reproductive lives. In some cases, we have followed women to the end of their reproductive years. Thus we would expect to find major changes over the years of the survey in patterns of family planning use. From the patterns of use discussed above, we know that there are differences within the cohort related to pregnancy history. We would expect results presented in table 21 to represent both age/pregnancy history and cohort-related changes, that is, changes in factors such as the availability of contraceptives over time. There is an expected decline in the percentage of women pregnant at the time of the survey, and an increase in the percentage of ligated women. Use of modern and hormonal methods as well as natural family planning were surprisingly stable over time.

Table 21. Family planning methods: current use in 1985, 1991, 1994 among women present for the 1994 survey.						
	1985		1991		1994	
Method	N	%	N	%	N	%
None	975	42.8	816	36.1	836*	36.7
Pregnant	366	16.1	199	8.8	111	4.9
Natural/traditional	409	17.9	410	18.1	380	16.7
Modern/hormonal	242	10.6	352	15.6	354	15.5
Ligation	151	6.6	360	15.9	432	19.0
Vasectomy	33	1.4	36	1.6	35	1.5
Combinations	55	2.4	58	2.6	108	4.7
Barrier	46	2.0	28	1.2	23	1.0
	2279		2259		2279	
*Includes women who are post-menspausal, infertile for health reasons, women with no spouse.						

Decisions about family planning. Regarding the decision of whether to use family planning, only 11% of women said they would consult no one. Of those who said they would consult someone, most said it would be their spouse, but unlike all of the other decisions, many women (17%) indicated they would consult another adult female. When asked about who they consulted concerning their current method of family planning, 68% said they consulted with their spouse, and the remaining women who consulted with others mentioned health practitioners most often. Thus there is a high level of consistency in responses regarding decisions about family planning. When asked who *should* decide, 16.4% of women say they should decide, 11.2% say their husband should decide, and 70.7% say the couple should decide. The remainder named others such as God, the church, or health practitioners.

D. Women's work for pay

Participation in work for pay. Women's work for pay was ascertained using a number of different questions. There is generally a high level of concordance in response to different types of questions about work, but the concordance is not perfect, mostly because of differences in the time point of reference of the questions. The sample size in various analyses related to work depends on the issue of interest.

One series of questions was asked about all household members. These included: Is she/he currently working for pay? Did she/he work for pay in the last 4 months? What is her/his main job (describe)? Similar questions were asked about second jobs. Another set of questions was asked of the mother only. These included questions designed to determine her job *status*. Of particular interest was whether she had a formal contract or benefits, and whether she had a supervisory role. Finally, income of all household members was determined. When income was received from joint earnings in a family business, income was allocated based on time spent working in that business, even though the individual may not have been formally paid. Thus the percentage of women with incomes is greater than those reporting working for pay.

Table 22 shows the work patterns ascertained from each of these questions. Nearly 78% of sample women reported working for pay at the time of the survey or in the past 4 months. This represents a dramatic increase from the baseline survey, when less than half of women reported working for pay. Nearly 65% of women were earning a regular income. Relatively few (226) women had jobs that included a formal contract or benefits such as health insurance. These women had higher education levels, and their jobs were more often profession/technical or clerical. Only 140 women had supervisory roles in their jobs. Of these, 65% supervised fewer than 5 others.

Table 22. Work patterns of sample women.		
Work status	Frequency	Percent
Currently working for pay	1673	73.4
Worked in the past 4 months	99	4.3
Earned income	1822	79.95
Earned regular income (not seasonal)	1480	64.9
Wage, permanent, benefits	130	7.4
Wage, contractual, benefits	38	2.2
Wage, contractual, no benefits	58	3.3
In probation period	2	0.1
Type of pay (n=1761)		

Table 22. Continued		
Work status	Frequency	Percent
On commission	79	4.5
In kind	30	1.7
For own profit	767	43.6
Wage, irregular	255	14.5
Unpaid family worker	115	6.5
Type of pay (n=1761)		

Types of pay can be grouped according to different features. For simplicity, and comparison with earlier surveys, we use 5 categories based on work/non-work and work sector to include wage, piece, self employment, and unpaid family worker (table 23).

Self employment is the predominant work sector. Considering paid workers only, nearly half (47%) of women working and earning income were self employed. There are no significant differences in maternal age among the different categories. Wage workers had significantly higher levels of education and lower parity than all other women.

Table 23. Characteristics of women in different categories of work.						
Work category	Number (%)	Age	Education	Parity	HH income*	Mother's income*
Not working	518 (22.7%)	37.9	7.4	5.7	319	7
Wage, all types	483 (21.1%)	38	8.7	4.9	382	133
Piece, commission	366 (16.1%)	37.4	6.8	5.4	335	72
Self employed	767 (33.7%)	38.2	7.0	5.5	410	143
Unpaid family worker or paid in kind	145 (6.4)	38.4	6.1	6.0	311	14
*Median incomes are presented because income distributions are highly skewed. Age does not vary significantly across work categories. Significant differences by ANOVA ($p < .01$) are found in education (wage differs from all other categories, unpaid differs from wage and not working) and parity (wage differs from other categories) .						

While the percentage of women working for pay does not differ in urban and rural communities, the types of employment differ (Table 24). Wage workers are more likely to live in urban areas. Women working as unpaid family workers, or who are compensated “in kind” are more likely to be rural residents. Piece workers or those working on commission are nearly equally distributed between urban and rural areas.

Given that many sociodemographic factors cluster together, we used a multivariate model estimated by logistic regression to identify characteristics significantly associated with work in the different sectors. Results are presented in appendix 2. Results represent the log odds of membership in a given category relative to not working for pay. Mother’s age was not significant for any category of work. High education (high school or greater) increased the likelihood of wage work, and low education (primary school only or less) increased the likelihood of self-employment and unpaid work in a family business. Work before marriage, used by many economists as a measure of labor force attachment, significantly increased the likelihood of all work categories compared to not working, with the strongest effects for wage and self-employment. The likelihood of wage work was increased by urban residence, and the likelihood of unpaid work in a family business was increased by rural residence. This is consistent with the fact that there are more wage earning opportunities in urban areas, and unpaid work in a family business is most often related to farming. Higher earnings of others in the household (exclusive of the mother’s earnings) decreased the likelihood that a woman would work for pay, but increased the likelihood of unpaid work in a family business. This is consistent with what we learned from focus groups and other analyses: when household income is adequate, most women would prefer not to work. The models also included household composition variables: the presence of infants and preschoolers (but *not* school age children) in the household decreased the likelihood of work in all sectors compared to not working for pay.

Table 24. Work status differs in urban and rural communities.				
	Urban		Rural	
	N	%	N	%
Not working	365	22.1	153	24.2
Wage	405	24.5	78	12.4
Piece	263	15.9	103	16.4
Self employed	549	22.3	218	34.7
Unpaid family or in-kind	69	4.2	76	12.1
All	1651	100	628	100

Occupations. Women's occupations were recorded verbatim, then coded according to occupational codes developed for use in the Philippines. Main occupations were reported by 1772 women. A total of 127 different job codes are represented. These fall into 8 main job categories, and the number of women in each of the 8 categories is presented in table 25. About 40% of women reporting an occupation worked in sales. These women were typically classified as working proprietors, with their own small sari sari stores, or as street or market vendors. Twenty-four percent worked in crafts, including shell craft and basketry, woodwork, sewing, embroidery or tailoring, and leatherwork. Of the 19% who were classified in the service category, most were launderers in private households, bet-takers (for jai alai matches), or beauticians/manicurists. A complete list of occupations is presented in appendix 3.

Table 25. Characteristics of women in different occupation categories.							
Occupation Category	N	% with contract and/or benefits	Highest grade completed	Age	Weekly income (pesos)	Hours per week	# pregs
Professional-technical	69	85.5	14.0	40.6	259	39.5	4.4
Administrative	65	10.9	10.8	37.7	428	48.1	5.0
Clerical	60	80.0	12.3	38.4	241	44.3	4.2
Sales	703	2.3	7.4	37.9	222	49.0	5.8
Farming, fishing	98	0	4.1	39.8	34	23.0	7.5
Communication, Transportation	15	60.0	7.1	37.8	162	39.4	5.7
Crafts	419	15.6	6.2	37.5	118	40.9	5.8
Service	343	6.5	6.7	37.7	101	33.3	6.1
Not working	507		7.3	37.9			6.2

Some women (n=325) reported having a second job. Of these, 257 reported working at this second job in the previous week. Second jobs were most likely to be in the self-employment sector, and most often involved sales (22% of second jobs) or service (13% bet-takers). The latter is an occupation easily handled as a second job, since the work can be done at home and requires no investment or materials.

Trends in work for pay over time. From the baseline survey to 1994, we observe a progressive increase the percentage of women working for pay (table 26). The change in the distribution of work in the various sectors is small.

Table 26. Trends in working for pay and work sector over time in the sample of women present in 1994.				
% of workers:	BASELINE	L 12	1991	1994
Piece	23.0	23.3	18.3	20.8
Self-Employed	42.5	46.0	44.4	43.6
Wage	28.0	24.3	29.6	27.4
Unpaid worker in family business	6.6	6.5	7.6	8.2
Total % of sample women working for pay	40.3	52.7	68.4	77.3
N	2279	2102	2259	2279

Place of work. Among working women reporting a place and travel time to work (N=1759), just over one third worked at home, 18.5% worked 5 minutes or less from home, and 45.8% traveled more than 5 minutes to work (table 27). Of the 924 women not working at home, and not ambulatory workers (e.g. street vendors who travel from place to place), the mean travel time was 22 minutes. Twenty-five percent of these women traveled more than 30 minutes, and 10% traveled more than 60 minutes to work each day, adding significantly to the time burden imposed by working outside the home.

Wage workers were least likely to work at home, and typically had the longest travel times to work. Nearly half of self employed women worked at home. Many of these women were proprietors of small sari sari stores or other small businesses located in their own homes.

Table 27. Place of work.					
Place	N	%	% of wage workers	% of piece workers	% of self employed
Home	627	35.6	12.4	42.4	48.0
<=5 min from home	326	18.5	28.6	11.2	13.7
>5 min from home	806	45.8	59.0	46.2	38.2

Hours worked for pay. Women were asked about the hours they usually work, and about the hours they worked at their main and second job in the week prior to the interview. Results are presented in table 28. Women reported working just over 39 hours per week in their main job, and 257 reported an average of 12.8 hours in a second job. Usual (total) hours were slightly higher, with a mean of over 42 hours.

Table 28. Hours worked for pay.					
	N	Mean	S.D.	Range	Median
Hours last week, main job	1568	39.2	25.6	0-132	38
Hours last week, second job	257	12.8	10.2	0.25-54	9
Usual hours, excluding livestock	1772	42.2	25.5	0.4- 132	40.7

Hours differed by sector of employment (Table 29). Self-employed women worked the longest hours, with a mean of 47.3. Nearly 56% of self employed women reported usually working 40 or more hours per week. It should be noted that many self employed women have their own small stores, and their hours may reflect the total number of hours the store is open. When the store is located in or adjacent to her home, the woman may be doing other household work and caring for children while the store is open. Wage workers worked, on average, 43 hours per week, and two-thirds of them were working full time (40+ hours/week). Piece workers and unpaid workers in a family business had shorter hours, and a lower percentage were working full time.

Hours worked varied by number of pregnancies: women with 1-3 pregnancies worked on average, 4.3 hours/week more than those with 7 or more pregnancies, and 2.9 hours/week more than those with 4-6 pregnancies ($p=0.05$).

Table 29. Usual hours worked for pay, by sector of employment.					
	Mean	S.D.	Range	Median	% Fulltime*
Wage	43.0	21.4	1-126	45	66.3
Piece	34.1	19.4	1-102	32	39.6
Self-employed	47.3	28.7	1-131	44	55.9
Unpaid family worker	32.8	25.4	1-102	24.5	36.8
*Fulltime=usual hours ≥ 40 /week All inter-sector differences in hours are significant at $p < .01$ with the exception of piece vs. Unpaid family workers.					

E. Women's Income

All income values in each round of the CLHNS are deflated to 1983 values in order to facilitate comparison with earlier rounds of the survey. A weekly deflated income of 100 pesos is equivalent to about 455 pesos in 1994.

Women's weekly incomes improved from a mean of 105 and a median of 63 pesos in 1991 to a mean of 177 and a median of 117 in 1994. Women's earnings are highly skewed. Therefore, in table 30, we present mean and median weekly and hourly earnings by sector of employment. Self-employed women had the highest mean weekly earnings, but given the very large range of variability, mean earnings are not significantly different between wage and self-employed workers (but both are significantly higher than piece workers). Mean hourly earnings of self employed women were significantly higher than wage or piece workers.

Table 30. Women's income by sector of employment: values deflated to 1983 values to allow comparison with earlier rounds of the CLHNS.							
100 pesos (1983) = 455 pesos (1994)							
		Weekly Income (Pesos)			Hourly Income (Pesos/hr)		
	N	Median	Mean	S.D.	Median	Mean	S.D.
Wage	482	133	162	149	3.2	4.2**	5.1
Piece	366	67	124*	226	2.3	4.5**	8.7
Self-employed	734	142	214	247	3.4	6.3	14.0
All	1582	117	177	220	3.2	5.8	17.4
*Different from wage, at p=.08, ANOVA							
**Different from self employed at p<.03, ANOVA, with one extreme outlier removed from analysis.							

Table 31 presents women's earnings as a percentage of total household income, by sector of employment. About one quarter of women made no contribution to total household income, either because they were not working, or because their earnings were negligible or their businesses had a net loss. On the other end of the spectrum, 411 (18%) of women contributed more than 50% of the total household income. They earned about 3 times more than women who contributed less than 50% to total household income. There were no differences in age or education of those who were big contributors versus all others, however mothers making a bigger contribution had significantly fewer pregnancies, and smaller households. Women who were large contributors were more likely to be widowed or divorced.

Table 31. Women's earnings as percentage of household income.				
	Number of women	Median HH income	Median women's income	Woman's income as T of total HH income
Not working	518	319	0	0
Wage	483	383	133	34.9
Piece	366	335	67	26.9
Self employed	767	410	142	39.1
Unpaid or in-kind	145	311	8	0
All Working	1761	379	109	32.8

Total household incomes in families where women were big contributors were not different from incomes where women contributed less, suggesting that women's income was substituting for others rather than augmenting household income in those households. Among those large contributors with spouse present (n=390), nearly 65% said their husband was not earning enough to meet household expenses. This would suggest that women were working from economic necessity, when they perceived their spouse's income to be inadequate.

Decisions about work outside the home. We looked at whose will prevails in the decision to work for pay and whether the woman was currently working for pay. 74% of women whose will prevailed in the decision to work outside the home were currently working for pay, compared to 56% working among those whose will did not prevail.

F. Expenditures

Women were asked to estimate the amount the household spent in the past week on various foods (listed separately), alcohol and tobacco, and allowances for children; in the past month for firewood, utilities, laundry detergent and toiletries, household help, transportation, reading materials, and recreation; and in the last year for purchase of house and land, school expenses for children, medical expenses, cleaning, durable goods, taxes and insurance, loans or mortgage payments, and parties and other gatherings. Expenditures are difficult to estimate accurately, and there are likely to be large errors. We have no way of determining the nature of the error (under-reporting or over-reporting) or whether it is differential according to household income except by comparing reported expenditures to income. However, such a comparison is complicated by the fact that the point of reference for all income and expenditure questions is not the same. Estimates of total weekly expenditures tend to exceed estimated incomes in lower income families, and reported expenditures fail to account for a significant portion of total income in higher income families. The expenditure data are clearly limited. However, the trends we observe

by total family income level suggest that the estimates allow for reasonable ranking of households by expenditures in different categories. The number of households with no expenditure in a given category is also included in the table. Only one low income woman reported spending nothing on food in the previous week, while more than 500 women reported no expenditure on entertainment.

Table 32 shows the percent of weekly household income spent on different household expenses by level of total household income. Expenses reported on a monthly or annual basis were recalculated to represent weekly expenditures, and items were grouped for the analysis. As is the case with income data, expenditures were highly skewed, and thus we present both means and medians, which are consistently low than means.

In low income families, the median expenditure on food represents about two thirds of weekly income, while in the highest income tertile, just under one-third is spent on food.

Table 32. Percent of weekly household income spent on various household expenses by income tertile.									
	Low Income (n=751)			Medium Income (n=753)			High Income (n=774)		
Item	# = 0*	Median	Mean	# = 0	Median	Mean	# = 0	Median	Mean
Food	1	66.1	87.1	0	46.3	48.2	0	30.0	31.9
Alcohol/Cigs	196	2.7	5.4	204	1.9	3.1	230	1.1	2.0
Allowance	83	3.9	6.5	44	3.3	4.3	27	2.4	3.4
Household Help	737	0	0.9	720	0	0.3	626	0	0.8
Water/Elec etc.	1	8.8	15.5	0	6.8	7.7	0	5.2	6.4
Transportation	89	2.9	5.5	53	2.7	4.1	39	2.0	3.0
Entertainment	513	0	2.0	463	0	2.1	310	0.2	1.0
House-Lot	459	0	4.1	424	0	3.5	355	0.2	5.2
School Fees	39	2.5	6.5	20	2.1	3.7	9	2.0	3.9
Health	87	0.5	2.9	67	0.5	1.7	61	0.4	1.8
Cloths	134	1.2	2.5	70	1.1	1.7	42	1.0	1.5
Durables	290	0.3	4.0	200	0.5	3.7	142	0.9	5.2
Continued									

Table 32. (Cont)

	Low Income (n=751)			Medium Income (n=753)			High Income (n=774)		
Item	# = 0*	Median	Mean	# = 0	Median	Mean	# = 0	Median	Mean
Insurance	519	0	1.1	364	0	1.2	255	0.5	1.8
Loans	671	0	0.6	607	0	1.1	561	0	1.6
Feasts	97	1.0	2.7	53	1.1	2.0	25	1.2	2.3
Total		89.9	147.3		66.3	87.8		47.1	71.8
*Number of households with no expenditure in each category									

There is a general supposition in the literature that women's earnings are more likely to be spent on food, clothing, and other necessities such as health care. To test this supposition, we looked at the percent of household income spent on food, clothing, child's schooling and health care in households where the woman was a big contributor to total income vs. those where she was not, controlling for total household income. In each case, we found strong effects of total household income, but no significant effect of a large contribution by the woman on the percent of income spent on these items. This issue requires further analysis, however, to account for likely effects of a wide range of factors such as household composition and dependency ratio.

G. Work and childbearing

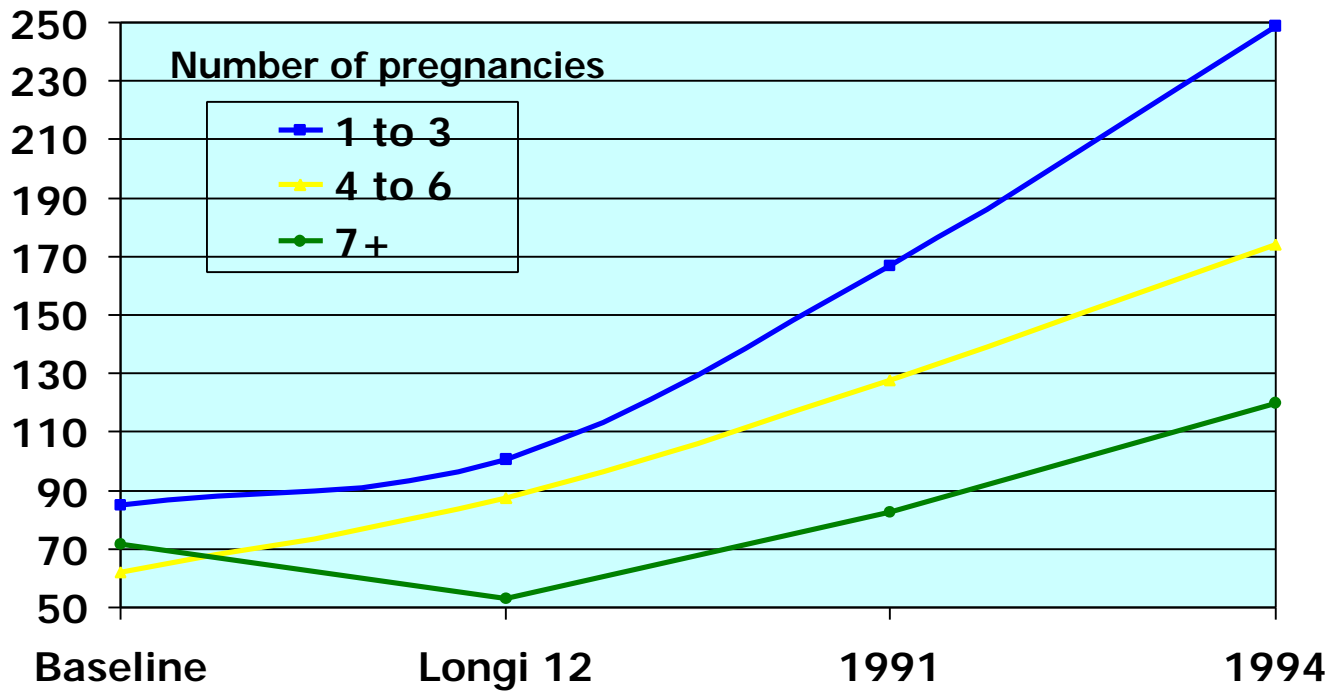
The logistic regression which identified factors significantly associated with work in the different sectors is also informative about associations of work and childbearing (see appendix 2). Infants were present in 11.5% of households, and preschool children were present in 53.3% of households. The presence of infants and preschool children significantly reduced the likelihood that women would be working for pay or as unpaid family workers. The effects of young children were strongest for the wage sector. When the analysis was repeated using total number of pregnancies, similar results were found. Each additional pregnancy decreased the likelihood of work for pay, but had no significant effect on unpaid work in a family business relative to not working.

We compared women's cash earnings over time, among 836 women who were consistently working for pay and reported income during the baseline, longitudinal 12, 1991 and 1994 surveys, according to the total number of pregnancies they reported in 1994. Results are shown in figure 3. Note that women's earnings at baseline did not differ by their total number of pregnancies in 1994. However, earnings progressively increased at a greater rate among women with fewer children, such that by 1991, mean weekly incomes of the 3 groups were significantly different. Women with 3 or fewer pregnancies earned 128 pesos/week more than women with 7

Figure 3

Income Progression Among Mothers Consistently Working for Pay by Total Number of Pregnancies

Mother's weekly income
(pesos deflated to baseline values)



or more pregnancies, and 54 pesos/week more than women with 4-6 pregnancies. This suggests that among workers, high fertility is associated with remaining in or shifting to lower paying jobs.

However, a large portion of the difference in earnings by fertility status could be explained by maternal education. Controlling for maternal education level using linear regression reduces these difference to 52 pesos ($p=0.01$) and 36 pesos/week ($p=.057$).

A similar result can be seen when we consider only those pregnancies that occurred after birth of the index child at baseline. In figure 4 we present mean income for women who had no pregnancies, 1-2, 3-4, 5 or more pregnancies subsequent to the index birth. Little change in income is seen between baseline and the longitudinal 12 survey, perhaps reflecting the effect of the index child who was 2 years of age at longitudinal survey 12. Thereafter, women with 2 or fewer subsequent births increased earnings at a faster rate than women with 3 or more subsequent pregnancies.

The sample of women who reported working at all 4 points in time is a highly selected group of women. Childbearing also affects the likelihood of working for pay. In earlier work (Adair et al 1997), we showed that the likelihood of working for pay at baseline and in 1991 is significantly reduced by having a child less than 2 years of age, and by the total number of children a woman has. The 1994 data show that nearly 79% of women with 3 or fewer children were working for pay while only about 71% of women with 7 or more children were working for pay. A high level of labor force attachment among women who are consistently working may reflect a lower sensitivity to the effects of childbearing. On the one hand, women from poorer families may have no choice but to earn additional income to support their large families (recall also that a disproportionate number of lower fertility women had no spouse). On the other, more highly educated women working in the formal sector may have the resources to pay for child care and thus be able to remain in the labor force.

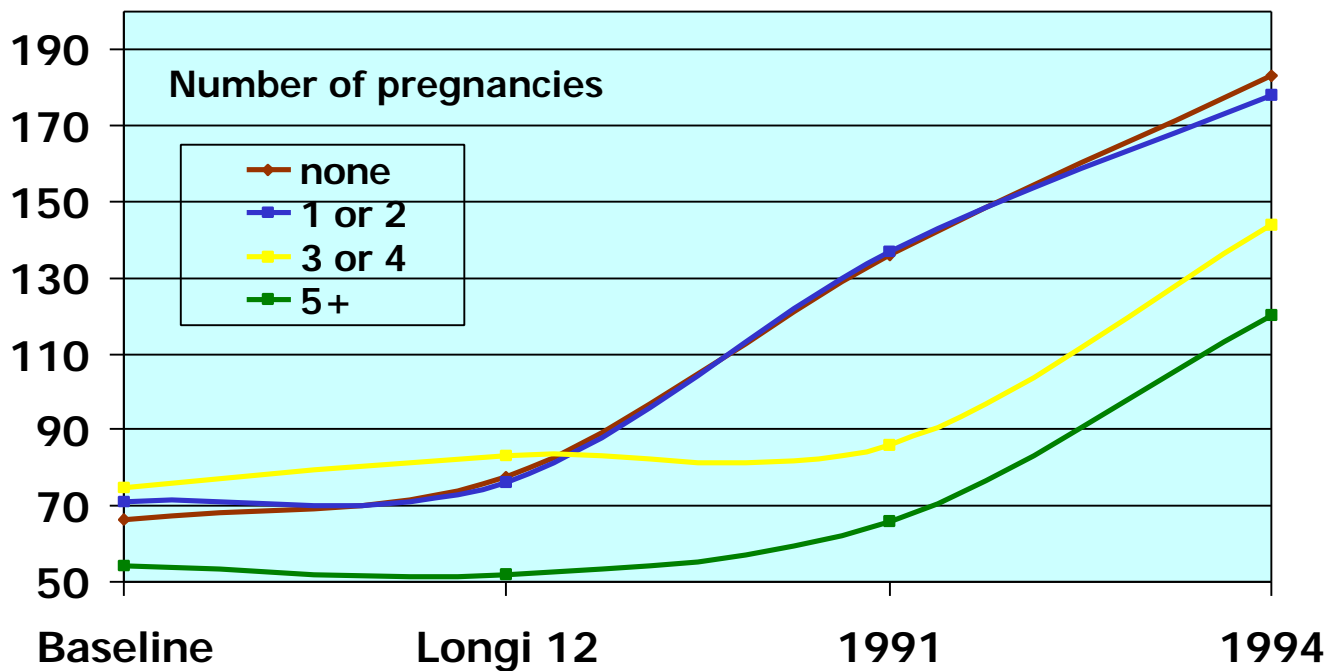
H. Time allocation and household work burden

Mothers were asked to list their usual activities in each time segment of the day, (excluding Saturday and Sunday), from the time they woke up in the morning until going to sleep at night. Minutes usually spent in each activity was recorded. For analysis, activities were grouped into personal hygiene, child and elder care, food preparation, housekeeping, tending animals and gardening, work for pay at home, work for pay away from home including travel time, and recreation. Women accounted for a median of about 16 hours per day, but the total amount accounted for ranged from 13 to 24 hours. The high values are likely to represent overlap in a range of activities, in particular childcare and other forms of work at home. We also calculated a total work burden (time spent working for pay, doing child and elder care, food preparation and housekeeping and tending animals and garden) and a domestic work burden (subtracting work for pay) from the total work burden. Tables 33 and 34 show time allocation patterns by total household income quartile, and work sector, respectively. There are varying numbers of women who report no time in certain categories. For example, while only one woman declared no time in

Figure 4

Income Progression Among Mothers Consistently Working for Pay by Number of Pregnancies After Baseline (n=839)

Mother's weekly income
(pesos deflated to baseline values)



food preparation, a substantial number spent no time gardening or tending animals. Categories with large numbers of zero values for time tend to have very large standard deviations.

Women from low income households have the lowest total work burden, but this is primarily because they are less likely to be working for pay. Thus, when we look at the domestic work burden exclusive of work for pay, women from the poorest households have the highest domestic work burden. This is attributable primarily to the contribution of child and elder care and housekeeping tasks. The total number of children, and the number of infants and preschool children in the household does not differ significantly by income quartile.

Time allocation varies substantially by work status. Self-employed women have the highest total work burden, primarily because of their long hours, followed by wage workers. The domestic work burden is highest among non working women, and lowest among wage workers, reflecting the reciprocal relationship of time spent working for pay and time spent doing domestic work. While the total work burden of women with and without maids does not differ at all, the domestic burden is 25% less among women with maids.

Leisure time also varies across income and work categories. Women in the lowest income quartile reported significantly more recreation and leisure time than women in the 3 upper income quartiles, but there were no significant differences among the upper 3 quartiles when differences were subjected to ANOVA. Non working women reported more time spent in recreation and leisure than working women, and piece workers reported significantly more than self-employed workers. Time spent on personal hygiene is consistent across all categories.

Table 33. Time allocation varies by level of household income: minutes per day spent in various activities.										
	1		2		3		4		All	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Personal hygiene	32	16	31	14	31	15	35	19	32	16
Child and elder care	114	130	87	113	83	115	75	105	90	117
Food prep.	190	80	181	82	169	80	165	88	176	83
Housekeeping	118	96	112	97	108	105	91	93	107	98
Gardening, animals	21	41	20	42	16	39	11	24	17	37
Continued										

Table 33. (Cont)										
	1		2		3		4		All	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Work for pay, home	78	171	100	193	92	195	125	232	99	199
Work for pay, away	128	222	200	266	252	289	252	294	208	274
Recreation, leisure	272	172	235	156	232	165	243	171	246	167
Total	955	86	971	85	988	87	1001	92	979	89
Total work ¹	650	186	704	171	722	176	722	190	699	184
Domestic burden ²	443	202	402	197	378	203	344	202	392	204
¹ Total time – leisure and personal hygiene.										
² Child and elder care, food preparation, housekeeping, gardening and tending animals.										

Table 34. Time allocation varies by work sector: minutes per day spent in various activities										
	Not Working		Wage		Piece		Self		Unpaid	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Personal hygiene	32	16	33	19	32	16	31	15	31	16
Child and elder care	155	158	61	84	77	94	68	95	97	108
Food prep.	220	80	146	78	185	71	164	81	168	80
Housekeeping	167	104	75	93	109	91	89	83	92	95
Gardening, animals	25	51	9	23	14	29	16	32	28	48
Continued										

Table 34. (Cont)										
	Not Working		Wage		Piece		Self		Unpaid	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Work for pay, home	0	0	37	120	120	183	196	261	83	177
Work for pay, away	0	0	397	266	198	232	228	297	232	253
Recreation, leisure	345	179	225	147	233	152	201	155	228	135
Total	953	77	989	90	970	77	997	96	961	92
Total work ¹	575	180	728	160	728	160	763	178	701	148
Domestic burden ²	569	181	293	176	386	164	338	179	385	193
¹ Total time - leisure and personal hygiene.										
² Child and elder care, food preparation, housekeeping, gardening and tending animals.										

One pathway by which family planning is hypothesized to improve women's lives is by reducing the number of children and thus the burden of domestic work. We looked at the domestic work burden as a function of the total number of children, and of the number of children of different ages in a linear regression model with no other covariates. We found that taking all children under the age of 18 into consideration, each child increased the domestic work burden by about 16 minutes per day, primarily because of the demands of child care. However, if we consider the age of the children, we see a more dramatic effect. Each infant increased the domestic work burden by 130 min/day; each preschool child increased it by 52 min per day; and each school age child cost an extra 26 minutes per day. Adolescents "saved" women 17 min/day, presumably by sharing in some of the household chores. The differences in domestic work burden can be attributed primarily to child care time, since the presence of children did not significantly alter the time spent doing housework.

Women were asked whether various tasks were performed in the household, and if so, who did the task and who was primarily responsible for the task. The list of tasks included the following: buying food, preparing food, cleaning up after meals, cleaning the house, buying clothes, washing clothes, taking care of children, hauling water, gathering firewood, taking care of plants and animals, home repair. Of these, the first 7 were done in 95% or more of households, and are included in further analysis.

Table 35 shows the percentage of women who stated that they were primarily responsible for the task, as well as the percentage who reported that no one else in the household did the task (thus the woman was solely responsible). The 7 tasks were summed to give another index of work burden.

Table 35. Household tasks: percentage of mothers who are mainly or fully responsible.		
Task	Mother mainly responsible	Mother fully responsible
Buys food	79.6	62.4
Cooks food	71.9	37.1
Cleans up after meals	48.9	17.5
Cleans house	60.2	24.5
Buys clothes	94.3	82.3
Washes clothes	70.0	45.2
Cares for children	77.6	39.2

Results show that women experienced a considerable domestic work burden with a high level of responsibility for household tasks (Table 36). Women were primarily responsible, and most often assumed full responsibility for buying clothes for themselves and their children, and for buying food for the household. In other tasks, they are more likely to have help. Most often, the other household member who shares tasks is a son or daughter, particularly in cleaning up after meals. Spouses were more likely than children to share in food preparation, but rarely help with washing clothes. Spouses were more likely to do tasks such as hauling water, getting firewood, or tending animals.

Table 36. Number of household tasks women do (maximum=7, tasks include buying food, cooking food, cleaning up after meals, cleaning the house, buying clothes, washing clothes, and caring for children.				
Number of tasks	Mother mainly responsible		Mother solely responsible	
	N	%	N	%
0	10	0.4	102	4.5
1	75	3.3	348	15.3
2	188	8.3	502	22.0
3	242	10.6	464	20.4
4	290	12.7	342	15.0
5	352	15.5	285	12.5
6	499	21.9	167	7.3
7	623	23.4	69	3.0

Nearly a quarter of women were mainly responsible for all 7 household tasks, and about 60% were mainly responsible for 5 or more tasks. About 23% of women were solely responsible for 5 or more tasks. The number of tasks a woman did at home was higher among non working women, and varied by hours worked (Table 37). In addition, the number of tasks she did varies by household income: women in the lowest income quartile households did more tasks than those in higher income quartiles. Women in the highest income quartile were much more likely to have maids. Of the 201 households with maids, 68% were in the highest income quartile. Women working in the wage sector did the smallest number of household tasks, and were more likely to have maids (table 38). Number of tasks was also related to place of work. Women who worked at home did more household tasks than those who worked away from home, particularly those with longer travel times to work.

Table 37. Mean number of tasks by work and income status.		
Status	Mom mainly responsible	Mom solely responsible
Working for pay*	5.3	3.2
Not working for pay	5.0	3.0
Working part time**	5.4	3.3
Working full time	4.4	2.7
<u>HH income quartile***</u>		
1	5.5	3.5
2	5.2	3.1
3	4.9	3.1
4	4.4	2.6
*Number of tasks for which mom is mainly and solely responsible differ significantly by work status, ANOVA, $p < .03$ ** ***Number of tasks for which mom is mainly and solely responsible differ significantly by income quartile, ANOVA, $p < .001$. All comparisons significant except quartile 3 vs. 4 for mom solely responsible.		

Table 38. Household tasks by work sector.				
Work sector	# tasks mother mainly responsible	# tasks mother solely responsible	% of mothers who do all 7 tasks	% with maids
Not working	5.7	3.4	37.1	6.7
Wage	4.3	2.7	19.5	11.0
Piece	5.4	3.2	32.5	3.3
Self employed	4.9	3.1	23.3	11.3
Unpaid family	4.8	2.8	26.9	9.7
Significance				

I. Autonomy: Decision making

We attempted to measure women's autonomy by determining the degree to which they were free to make different decisions on their own. A list of decisions was generated from focus group discussions with Filipinas and a review of questions asked in other surveys of women in the Philippines. The items on the list represented minor as well as major decisions. The format of the question is important, since it gives rise to several issues related to interpretation of the results.

Interviewers said "I will name some decisions that you might have to make, and please tell me: Do you consult with someone when you have to decide on this matter? If yes who do you consult? If the woman indicates that she would consult someone, she is asked: "Whose will prevails on this matter?" If her will does not prevail, she is asked "What do you do when you are against such a decision?"

One problem with the data concerns the point of reference for decisions. Not all households are faced with all of the decisions asked about in the survey. For example, in the case of buying major appliances or land, some households were not able to afford such purchases. Thus, the number of women who answered each question varies. Further it is not always clear whether women were thinking of the hypothetical case or an actual decision when they answered some questions. Table 39 lists the decisions included in the survey, and presents frequencies of responses about who is consulted.

Table 39. Who do women consult when making decisions?					
Who woman consults in Decision to:	No one	Spouse	Children	Other Adults	N
Buy shoes	67.5	30.1	1.4	1.0	2277
Buy children clothes	63.2	33.7	2.7	0.4	2278
Take children to the doctor	43.4	54.4	0.2	2.0	2277
Make major purchases	9.9	87.1	1.8	1.2	2240
Buy/sell land	5.5	91.2	0.8	2.5	2131
For children's schooling	20.0	76.9	2.0	1.1	2275

Continued					
Work outside the home	31.4	67.5	0.5	0.6	2270
Travel outside Cebu	12.7	84.3	1.1	1.8	2257
Get gifts for relatives	39.1	59.1	0.9	0.9	2266
Hire household help	22.9	75.4	0.4	1.2	1410
Use family planning	11.8	68.2	0.0	20.0	2269
(N is variable since these questions were answered only by those women for whom these questions were applicable, or for those women who could afford the item.)					

Women claimed most often to make minor decisions such as purchase of shoes for themselves or clothing for their children without consultation. In contrast, women tended to consult others, particularly their spouse, regarding decisions such as making major purchases for the household or buying land. Patterns in minor decisions (buying shoes and clothing, schooling for children, and taking the child to the doctor) are presented in table 40. Only 17% of women consulted their spouse on all of these minor decisions, while 11% consulted no one on these decisions. The remaining 72% of women consulted others about at least one, but not all decisions. Most commonly, the consultation with others was about children's schooling.

Table 40. Patterns in minor decisions.		
Pattern	Percent	N
Woman consults her spouse only about children's schooling, all other decisions she does not consult anyone	19.0	432
Woman consults her spouse about children's schooling and about the doctor. Does not consult anyone about buying shoes or buying children's clothes	18.0	410
Consults spouse on all decisions	17.0	386
Makes all decisions herself	11.7	267
Consults her spouse about buying clothes, taking the child to the doctor, and children's schooling. Decides about buying shoes herself	7.8	178
Other miscellaneous patterns	26.5	600
N	100	2273

Patterns of decision making were next examined for major decisions: making major purchases, buying or selling land, working outside the home, use of family planning and traveling outside of Cebu (Table 41). Nearly half of sample women consulted their spouse on all of these decisions.

Less than 2% of women did not consult anyone on any of these decisions. The remaining half of sample women consulted with someone on at least one of the major decisions, typically land and major appliances. In a later question, women were asked who decides how their earnings should be spent. Most (85%) said they decided on their own, while 2.2% said their spouse decided, and 12.1% said both decided equally.

Table 41. Patterns in major decisions.		
Pattern	Percent	N
Consults spouse on all decisions	47.5	1000
Consults spouse about all decisions except working outside the home. Makes decisions herself about working outside the home.	11.2	235
Consults spouse about all decisions except family planning. Consults other adults about family planning.	11.0	233
Consults spouse about all decisions except family planning. Makes decisions herself about family planning.	4.5	94
Makes all decisions herself	1.3	28
Other miscellaneous patterns	24.3	511
N	100	2101

Tables 42 and 43 relates a variety of characteristics of women to minor and major decision making. Women who consult their spouses on all decisions regarding children are less educated than others, and are also a little younger. Women who do not consult any one are more likely be living without their spouses. When their spouses are present in the house, these women are more likely to be victims of abuse. In other words, total autonomy does not appear to be a matter of choice. In the case of major decisions, women who make all decisions on their own are also more likely to be living without a spouse.

Table 42. Patterns of decision-making for women: Decisions about buying children's clothes, taking the child to the doctor, and children's schooling, and buying shoes.

Pattern	Age of woman (sd)	Age of spouse (sd)	Highest grade completed by woman (sd)	Highest grade completed by spouse (sd)	Family size at the time of the interview (sd)	Pregnant now (%)	Spouse present in the household	Husband physically hurts woman when angry (%)	Husband's income enough for household expenses %	N
Woman consults her spouse only about children's schooling, all other decisions she does not consult anyone.	37.9 (6.0)	40.4 (7.1)	7.6 (3.8)	7.6 (3.9)	7.0 (2.3)	6.3	90.3	12.7	45.9	432
Woman consults her spouse about children's schooling and about the doctor. Does not consult anyone about buying shoes or buying children's clothes .	37.8 (6.0)	40.5 (6.6)	7.6 (3.9)	7.8 (4.0)	7.0 (2.3)	6.1	97.8	12.9	43.4	410
Consults spouse on all decisions.	37.3 (6.0)	39.7 (6.4)	6.2 (3.3)	6.9 (3.7)	7.1 (2.2)	5.7	98.2	10.1	44.5	386
Makes all decisions herself .	38.8 (6.6)	40.5 (8.4)	7.9 (4.1)	7.7 (4.2)	6.7 (2.6)	3.0	62.2	21.2	46.1	267
Continued										

Table 42 (Cont)

Pattern	Age of woman (sd)	Age of spouse (sd)	Highest grade completed by woman (sd)	Highest grade completed by spouse (sd)	Family size at the time of the interview (sd)	Pregnant now (%)	Spouse present in the household	Husband physically hurts woman when angry (%)	Husband's income enough for household expenses %	N
Consults her spouse about buying clothes, taking the child to the doctor, and children's schooling. Decides about buying shoes herself.	37.9 (5.6)	40.4 (6.4)	7.8 (4.0)	8.3 (3.9)	6.9 (2.1)	3.9	98.9	13.5	46.0	178

Table 43. Major decisions: working outside the home, traveling outside of Cebu, using family planning, making a major purchase, buying or selling land.

Pattern	Age of woman (sd)	Age of spouse (sd)	Highest grade completed by woman (sd)	Highest grade completed by spouse (sd)	Family size at the time of the interview (sd)	Spouse present in the household (%)	Pregnant now (%)	Husband physically hurts woman when angry (%)	Husband's income enough for household expenses (%)	N
Consults spouse on all decisions	37.7 (5.6)	40.3 (6.4)	7.4 (3.8)	7.8 (4.0)	7.1 (2.4)	96.7	5.8	8.7	46.0	1000
Consults spouse about all decisions except working outside the home. Makes decisions herself about working outside the home.	36.8 (5.4)	39.3 (6.0)	7.7 (3.7)	7.8 (3.8)	6.8 (2.3)	97.4	6.4	16.3	43.1	233
Consults spouse about all decisions except family planning. Consults other adults about family planning.	38.4 (6.5)	40.3 (6.9)	7.3 (3.9)	7.6 (3.9)	7.2 (2.4)	97.4	3.8	15.7	45.0	235

Continued

Table 43 (Cont)

Consults spouse about all decisions except family planning. Makes decisions herself about family planning.	37.3 (6.4)	40.2 (6.8)	6.6 (3.6)	7.0 (3.4)	7.2 (2.3)	98.9	3.2	24.5	40.4	94
Makes all decisions herself.	38.5 (6.3)	43.8 (10.3)	8.5 (4.2)	8 (5)	6.5 (3.2)	32.1	0	26.9	57.7	28

Table 44 presents data on whose will prevails when others are consulted about decisions. Given the large proportion of women who said that decisions were jointly made with others, we developed a variable to represent the case where the woman appeared to have no say at all in the decision, that is, she consulted someone on the decision, her will did not prevail, and the decision was not jointly made. The last column of the table presents the percentage of women who had no say in the decision. Appendix 4 presents a correlation matrix, showing the interrelationship of all of the decisions.

There are relatively few women who have no say in minor decisions related to children or purchase of clothing or gift giving. In contrast, a larger percentage of women have no say at all in decisions about major appliances, land purchase, working outside the home, or hiring household help. Travel outside of Cebu is one decision where the highest percentage of women had no independent say.

Joint decision making is typical in the case of buying land and schooling of children. There is the least amount of joint decision making with regard to minor decisions and to women's work outside the home and travel.

Table 44. Autonomy in decision making: Whose will prevails?						
Decision	# of HH making decision	# of cases where woman consults	Woman's will prevails	Spouse or other will prevails	Joint decision	Woman has no say in decision
Buy shoes	2277	739	59.3	18.8	21.9	6.2
Buy clothing for child	2278	838	41.1	14.3	44.6	5.3
Take child to doctor	2277	1288	21.7	9.4	68.9	5.3
Buy major appliance	2240	2019	6.9	15.7	77.4	14.1
Buy land	2131	2013	4.7	13.0	82.3	12.3
Child's schooling	2275	1821	6.4	12.6	81.0	10.1
Work outside home	2270	1557	27.8	27.4	44.8	18.8
Travel outside Cebu	2257	1970	23.3	32.4	44.3	28.3
Give gifts	2266	1380	21.4	13.8	64.8	8.5
Hire HH help	1410	1087	11.3	19.2	69.5	14.8
Use FP	2269	2001	25.2	7.9	66.9	7.0
FP method	2253	1968	23.9	7.7	68.5	6.7

We used several approaches to try to categorize women as having high or low autonomy. In the most straightforward, we simply created a summary variable representing the number of decisions in which a woman has a say (either the decision is made by her alone or jointly). We did not include purchase of land and hiring of household help in this summary index, since there were many households where these decisions were not made. We included 11 decisions (buying shoes, buying clothing, taking the child to the doctor, child's schooling, buying gifts, traveling outside of Cebu, buying appliances, working outside the home, use of family planning, choice of family planning method and spending the mothers own earnings). The summary score takes on values of 0-11. About 43% of women had a score of 11, indicating that they had some say in all of the decisions. The relationship of the autonomy score to a range of other maternal and household characteristics was tested in a linear regression. It was not possible to explain more than about 2% of the variation in autonomy score using any combination of variables. Variables significantly related to higher autonomy included working for pay, working in the wage or self-employment sector, older maternal age, absence of spouse, and a higher percentage contribution of mother's income to total household income. Level of education was not associated with the autonomy score, nor was number of pregnancies.

A second strategy for the analysis of autonomy in different decisions was the use of factor analysis. Principal components factor analysis is a method commonly used to reduce a large number of variables into a smaller number of "factors" which can be interpreted by the researcher. In this case, we used a subset of decisions for which there were relatively few missing values. For example, decisions about purchasing land and hiring helpers were dropped because these decisions were not made in many households. The households in which these decisions were not made were disproportionately of lower income, and their exclusion biases the factors substantially.

Using 10 decisions (buying shoes, clothing for children, major appliances; schooling for children; working outside of the home, taking a child to the doctor, travel outside of Cebu, buying gifts for relatives and family planning) we were able to clearly identify 4 distinct factors based on high loadings of specific variables. Factor 1 represented autonomy in buying shoes and clothing for children (which women typically decide on themselves); factor 2 represented family planning; factor 3 represented working outside the home and travel outside of Cebu (in which women have the least say); and factor 4 represented purchase of major appliances and schooling of children (decisions most often made jointly). The factors were not altered when decision making about women's earnings was added. This decision did not load highly on any of the factors.

Individual scores for each of these factors were generated, normalized and used in further analyses. A woman with a high Z-score of factor 1 had relative higher autonomy in decision making about purchase of shoes and clothing for children.

Correlations among the 4 factor scores were low. In particular, the correlation of the family planning factor with each of the other factors was negative, but less than 0.08. Correlations

among the other 3 factors ranged from about 0.30 (travel-work with shoes and clothing) to 0.36 (travel work with appliances and schooling).

Associations of each of the 4 normalized factor scores to other maternal and household characteristics were tested using linear regression. As was the case with the summary autonomy score, the independent variables explained no more than 2% of the variation in any of the factor scores. Higher scores (higher autonomy) in work and travel, and buying shoes and clothing were positively associated with older maternal age. Presence of spouse was negatively associated with appliances and schooling, and travel and work, the 2 categories of decisions that are more commonly made jointly or more often by the spouse. A high mother's contribution to household income was positively related to all but the minor decision category of buying shoes and clothing, where women tend to have higher autonomy. Women's work in all sectors was negatively related to autonomy in family planning, but wage work was positively related to autonomy in work and travel. Number of pregnancies was not related to any of the autonomy scores. While these relationships were statistically significant given the large sample, it is important to remember that they explain relatively little of the variation in scores.

Handling of household money. Women were asked if usually the husband's income is/was enough for the household expenses. Among ever married women, 55.8% said that their husband's earnings were enough. Spouse's actual incomes were 1.8 times higher among men whose wives said they were earning enough. When women were asked what they do or did if their husband's earnings were not enough, 47% said they would earn additional income themselves, about half said they would borrow money or ask help from family, and about 3% said they would pawn goods, stretch money as far as possible or skip meals. In fact, women who said their husband was not earning enough were significantly more likely to be working, and their earnings were higher than women who said their husband was earning enough.

A majority of women (73%) said their husband turned over all of his earnings when he was working, about one quarter said he turned over some of his earnings, and only 41 women indicated that he turned over none of his earnings. All but 2 of these 41 women were working for pay.

Table 45 shows what women say when asked how they usually spend their money if they are earning an income. Women were asked how they spend their money if they are earning an income. The majority (75.5%) said they spend it on household expenses such as food, and basic necessities, while 5.3% said they would spend it on schooling for their children, 4% said they would save it, and the remaining mentioned paying debts, buying utensils or appliances, home businesses, personal needs or combinations of items. When asked how they would spend money set aside for themselves, most (n=1259) said they would buy clothing, shoes, slippers, lingerie for themselves; 189 said they would save for emergency use, children's health care and medications, and 114 said they would buy jewelry.

When asked who decides on how her earnings should be spent, 85% of women said they decided themselves, 2% said their spouse decided, and 12% said the responsibility was shared equally with their spouse.

Table 45. How women spend their earnings, when they are earning an income		
	#	%
Never had an income	14	0.61
Pay for everyday household expenses	1710	75.03
Children's school expenses	120	5.27
Put away for emergency	90	3.95
Pay debts	8	0.35
Gambling, recreation	1	0.04
Buying utensils, appliances	54	2.37
Business	9	0.39
Support personal needs	6	0.26
Pay for everyday expenses = other	246	10.79
School + other	22	0.97

What is autonomy? Does the format of the questions asked allow us to draw conclusions about autonomy? Further, is autonomy valued in this culture? It seems that the format of the questions is more suited to defining a lack of autonomy, that is, cases where a woman has no say in a decision. Women quite frequently indicated that they consulted with their spouse about a wide range of decisions. It is not clear, however, just what it means to "consult". In some cases, this may represent simply informing him of a decision, and asking in a cursory manner for his concordance as a gesture of respect or good will. In other cases, women may have a particular outcome in mind, and they may structure a consultation so as to enhance the likelihood that he will agree. It may be culturally appropriate to say that a decision is jointly made. There are several ways to test these notions. More detailed information about the process of decision making and negotiation is included in the discussion of results from the in-depth surveys. In the future, it would be most informative to ask the same questions of spouses, and compare results.

J. Women's status

In our initial focus group discussions, we tried to develop a concept of a high status woman, and to delineate dimensions of high status. There was a general consensus that a high status woman was one who took good care of her children, herself and her household. We therefore included in the survey, questions about whether the mother, her children, and her house and environs were “well-kept”. These were interviewer ratings of appearance, and answers were coded yes or no. In the environmental assessment module of the survey, interviewers were also asked to evaluate the general condition of the house with respect to excreta and garbage using a 4 category scale, and to rate the cleanliness of the food storage and preparation area using a 3 point scale. Because of the differences in scaling, there is an imperfect correspondence among the measures. However, they tend to rank women similarly.

Interviewers said that 17.8% of houses, 36.1% of children, and 38.0% of women were well-kept. By creating a pattern variable representing all 3 assessments, we determined that neither the house, the children, nor the woman were well kept in 57.7% of cases, and all were well kept in 15.7% of cases. In 17.5% of cases, the mother and children were well-kept, but the house was not. Table 46 shows characteristics of women and households in 3 groups: house, woman, and children not well kept, all 3 well kept, and combinations. There were no difference in whether the mother, children and house were well kept related to maternal age, hours worked, or work in the piece or self employment sector. Mother's and total household income was higher in well-kept households, and better educated women. While only 8% of sample households employed maids, 20.7% of households where the woman, the children and house were well kept had maids.

Table 46. Ratings of appearance of the woman, her children, and her house by characteristics of women and households.				
	None well-kept	Some well-kept	All well-kept	Signif.
N	1322	599	358	
Age (yr)	37.9	38.2	37.8	ns
Education (highest grade)	6.3	8.3	9.7	.000
# of tasks done by mother	5.1	5.0	4.8	.07
Not working (%)	21.5	23.0	26.8	.03
Mother's income (pesos/wk)	127	190	215	.000
Household income (pesos/wk)	407	551	787	.000
Wage worker (%)	19.2	255.2	21.8	.01
Piece worker (%)	17.2	15.4	13.1	ns
Self-employed (%)	34.8	32.9	30.7	Ns

Table 46. (Cont)				
	None well-kept	Some well-kept	All well-kept	Signif.
Hours worked	41.3	44.1	42.3	ns
Spouse present (%)	91.7	89.1	85.5	.000
Number of pregnancies	6.5	5.5	4.5	.000
Have maid (%)	5.0	10.2	20.7	.000

We used a multinomial logistic regression to look for significant associations between the overall measure of “well-kept” and other maternal characteristics. Compared to households where neither the mother, the children or the house and environs were well-kept, the likelihood of all 3 domains being well kept was significantly increased by having a maid, by older maternal age, higher maternal education, higher household income, a lower number of pregnancies and working for pay. The same factors were significant determinants of being in the intermediate category compared to the well-kept category.

During initial focus groups, we tested notions about women’s participation in community activities as an indicator of social status. We found no evidence that women regarded this as an important indicator of status, and many women indicated that there was little or no time for participation in community activities. The concept of public participation as an indicator of status may be more important in cultures where women have traditionally been more isolated, as in many Muslim countries. Filipino women have long enjoyed freedom to be seen and to interact in the public sphere.

K. Relationships among the status and autonomy variables

To what extent are socioeconomic status traditionally measured by income, assets and education; social status, and autonomy related? Are the relationships the same in all strata of the society? We examined this issue in several ways. First, the 3 domains (SES, social status, and autonomy) were operationalized as follows: Measures of SES include women’s education, household income quartile, and a summary measure of household assets (items such as TV, refrigerator, electric fan). Social status was measured by the “well-kept” variable, and autonomy was represented by the total autonomy score described above. Work for pay was also examined, though it is not clear whether this represents a social or SES variable. The intercorrelations of these variables are presented in table 47.

Table 47. Correlation coefficients: indicators of autonomy, socioeconomic status and social status.						
	Mother & children well-kept	House & environs well-kept	Mother's education	Household assets	Household income	Summary Autonomy Score
House & environs well-kept	.45					
Mother's education	.34	.26				
Household assets	.42	.35	.52			
Household income	.16	.15	.23	.35		
Summary Autonomy Score	-.03	-.08	.02	.02	-.02	
Mother working for pay	.0006	-.06	.04	.01	-.003	.09

The variables representing taking care of home and children were moderately correlated (.45) with one another, and with mother's education and household assets, but poorly correlated with total household income. What is most surprising is the very low correlation of autonomy score with any indicators of SES or care of home and children. Work for pay was also very poorly correlated with other variables. Thus it appears that autonomy in decision making, at least in the way we have measured it, is a domain completely separate from social status and SES. SES and social status are moderately correlated, and are overlapping concepts.

In a second strategy, a pattern variable reflecting 4 levels of household income (quartile), education (<6th grade, completed 6th, 7-11th grade, more than high school), and autonomy score was created, resulting in 64 possible combinations, all of which were represented in the data. All but 8 categories (mostly those representing low income and high education) had at least 10 women, but only one category had more than 100 women (122 women were low income, low education, high autonomy). When we add the 3-level "well-kept" variable to the pattern, we also find that every possible combination (n=192) is represented in the sample. What stands out in this analysis is the group of 96 women whose pattern was "1141", indicating the lowest income, lowest education, and highest autonomy, and whose self, house and children were poorly kept. Contrary to expectation, these women were no more likely than the rest of the sample to have an absent spouse. They were, however, disproportionately from rural areas (53% vs 27% in the entire sample). The only other categories with more than 50 women included those with the same pattern of low education, high autonomy, and poorly kept homes and children coupled with either of the 2 middle income quartiles (patterns of "2141" and "3141").

This analysis shows again that there is a lack of strong correspondence of social status, SES, and autonomy. Women at all levels of income and education may possess or lack high levels of autonomy. Clearly, further work on this important topic is warranted.

L. Domestic violence

Women were asked about domestic violence using a series of 3 questions: (1) When your husband gets angry, does he physically hurt you? What usually causes him to get angry? How many times does this happen in a year? The questions were asked of all women, and do not distinguish between present and past relationships. For example, widowed and divorced women responded to the questions with reference to the past. Thirteen never married women did not answer the questions. Of the ever-married women who answered these questions, 311 (13.7%) said their spouse physically hurt them when he got angry. Of these, The majority (55.6%) indicated that this happened rarely (once a year), 27% said it occurred 2-4 times per year, and the remaining 17.4% said it happened more than 4 times per year. Women most often said the cause was their “talking back”, disagreeing or making a mistake (n=69); jealousy (n=61), husband being drunk (n=41), or when they nagged about his drinking or being drunk (n=32) or about money (n=20). There were fewer than 10 responses in any other categories. Comparing women who said they were not physically hurt or hurt infrequently, with those hurt more often (n=138), there were no significant differences in household income, maternal age or education, nor were there differences in the autonomy score described above. Women who were hurt by their spouse had significantly more pregnancies (6.6 vs. 5.9). Their spouse was less likely to turn over all or some of his earnings, which is the norm in this population. The house and environs, mother herself and children were significantly less likely to be rated as well kept in these cases of abuse. Finally, victims of abuse were contributing a higher percentage to the total household income (31.7%) compared to non-abused women who contributed 25.3%.

V. The in-depth survey

Results from an analysis of the in-depth surveys are presented in a separate document, written by Josephine Avila.

VI. Implications and directions for further research, including ongoing analysis and plans for publication of results

Gaps in the research: What else would we like to know?

A significant missing piece of the puzzle is data from men. It would be highly desirable, particularly when dealing with issues of status and autonomy, to have asked the same questions of men and women, and to have compared their responses. Do men and women agree on whose will prevails in decisions?

The concept of autonomy is very difficult to measure. We tried to represent autonomy as freedom to make decisions, and gathered data by asking about who was consulted in making decisions. It would be interesting to determine whether subtle differences in the phrasing of questions would yield the same results. For example, if we had asked whether women believed they needed their husband's permission to make a specific purchase we might have gotten different responses. Further, some of the situations posed to women were hypothetical. It would be useful to ask about specific decisions and how they were actually made in the household. This type of question may be more suitable for in-depth interviews, and in fact, we did pursue how specific decisions were made in greater detail in the qualitative survey.

Regarding women's status, it would be useful to find a way to have each woman self assess her social status, and to have others in the community also judge each person's social status. This type of research would be very difficult to conduct, but we need better concepts of status that can actually be measured in a quantitative survey.

In cases of domestic violence, we would like to know more about the context of purported abuse. What is the extent of the physical and emotional damage done to women. Frequency of occurrence alone cannot tell us this. Do women hit back, or do they initiate violence?

The next important step is careful longitudinal analyses which take into account the sequence of family planning, child bearing and rearing, and women's work. Models which examine transitions in and out of the labor force, changes in work sector and hours, and patterns of time allocation are needed to identify the direction of causation in the relationship of family planning and childbearing to these important outcomes. Several research efforts, describe below will address these issues.

Plans for further research and publication. The data analysis completed for this report, though quite extensive, only scratches the surface of what can be done in the future. Each section of the report is deserving of expansion to at least one paper. With public access of the data to the research community, we anticipate that many researchers at UNC, OPS and other institutions will work on analysis in the future. Below is a summary of current project activities.

Connie Gultiano, Associate Director of OPS in Cebu is currently working on a doctoral dissertation that examines patterns of women's work from the baseline survey to 1994. She is analyzing how a wide range of factors, including childbearing, affect transitions in labor force participation across a woman's life cycle. Her work includes a careful consideration of selection bias from multiple sources, and sophisticated longitudinal multivariate models. Ms. Gultiano has completed her dissertation proposal, and presented a seminar on her progress to her dissertation committee at the Australian National University, where she is a candidate for the PhD in sociology. An synopsis of her work was submitted for consideration for presentation at the 1998 meetings of the Population Association of America. The synopsis is included as appendix 5 in this report. We anticipate production of 3 or more papers for publication in refereed journals with an international audience based on her research.

Josephine Avila, senior researcher at OPS assumed primary responsibility for analysis of the in-depth data from the 1994 CLHNS. We anticipate submitting 2-3 papers based on the in-depth surveys. Current plans are for a methodologically oriented paper dealing with differences in what we learn from quantitative and qualitative research on the same individuals; a paper on how decisions about family planning are made, and a third on another substantive issue central to the qualitative study.

Meera Viswanathan is a doctoral candidate in the Department of City and Regional Planning at the University of North Carolina at Chapel Hill, and a predoctoral trainee at the Carolina Population Center. Her doctoral dissertation will deal with time allocation in domestic work and work for pay, and how this changes with childbearing and other factors.

Michelle Mendez, is a doctoral candidate in the Department of Epidemiology at the University of North Carolina at Chapel Hill, and a predoctoral trainee at the Carolina Population Center. Her doctoral dissertation concerns children's IQ and school achievement, and she will assess the role of women's work and other household variables. Her research will provide insights into another important consequence of family planning, which may be thought of as "child quality".

Judith Borja, is a doctoral candidate in the Department of Epidemiology at the University of North Carolina at Chapel Hill, and a predoctoral trainee at the Carolina Population Center. She recently presented a paper on the effects of family planning on the quality of women's lives at the IUSSP meeting in Beijing (October 1997). This paper will be published in the Proceedings of the IUSSP. Judith's dissertation, though not directly related to the WSP, deals with a relevant topic. She is exploring the context of adolescent pregnancy among CLHNS sample women, including how adolescent childbearing affects birth outcomes and growth of children, and how family and

community factors interact with young maternal age. A recipient of a Population Reference Bureau Fellowship focused on development of policy implications of research, she will present a paper at the 1998 Population Association of America meetings.

A paper by Adair, Guilkey, Gultiano and Bisgrove, "The effects of childbearing on women's labor force participation and earnings" is currently under review at the Journal of Economic Development and Culture Change. A policy oriented paper using the results from core analyses in this project is planned, with Eilene Bisgrove as first author.

VII. References

Adair LS, Guilkey DK, Gultiano S, Bisgrove E. (1997) Effect of childbearing on women's labor force participation and earnings. Submitted for publication.

Bisgrove EZ, Viswanathan M (1996) A conceptual framework for the analysis of the impact of family planning on women's work and income. Family Health International.

Borja J, Adair LS, Bisgrove EZ (1997) Effects of childbearing on the quality of women's lives. Proceedings of the IUSSP, in press.

Flieger WF (1994) A Demographic and Socioeconomic Profile Based on the 1990 Census. Manila, Republic of the Philippines, National Statistics Office.

Guilkey, D.K., B.M. Popkin, J.S. Akin, and E. Wong (1989). "Prenatal Care and Pregnancy Outcome in the Philippines." Journal of Development Economics 30:241-72.

Hong S, Seltzer J (1994) The impact of family planning on women's lives: Toward a conceptual framework and research agenda. Family Health International Working Papers No. WP94-02.

Hardee K, Ulin P, Pfannenschmidt S, Visness C (1996) The impact of family planning and reproductive health on women's lives: A conceptual framework. Family Health International No. WP96-02

National Statistics Office (1994) Philippines National Safe Motherhood Survey 1993. Manila, Republic of the Philippines, National Statistics Office.

Oppong C (1980) A synopsis of seven roles and status of women: An outline of a conceptual and methodological approach. World Employment Programme Research Working Paper WEP 2-21/WP.94. Geneva: International Labour Office

Polhamus B (1997) The Effects of High Fertility on Maternal Nutritional Status. Doctoral Thesis, University of North Carolina at Chapel Hill

Schuler SR, Hashemmi SM (1993) Defining and studying empowerment of women: A research note from Bangladesh. JSI Working Paper. No. 3 April.

Appendix 1. **GUIDE QUESTIONS FOR THE IN-DEPTH INTERVIEWS**

1. Courtship and Marriage

1.1. Courtship

- a. How did you meet your husband? Where? When? Why?
- b. Was he your preferred suitor? Why him? Why not him?
IF NOT: Why were you not married to him? Or, why did you get married to your present husband? How was he chosen? How did you feel about your marrying a person who you did not prefer/choose to be your husband?

1.2. Marriage (GIVEN THAT OPS ALREADY HAS DATA ON WOMAN'S MARITAL HISTORY)

- a. How do you assess your spouse in terms of his care and respect for you? How do you feel about this?
- b. Have you had differences with your spouse? What do you usually quarrel about? How many times in the past? How was this resolved?

2. Children and Family Planning

2.1. Desired/ideal number of children

- a. Do you still want to have more children? Why yes or why not?
- b. What is your desired/preferred number of children? What made you choose this number? Why?
- c. Before you got married/cohabited, how many children did you want? IF NO DESIRED NUMBER: Have you ever thought about the children you wanted to have? What were these thoughts?
- d. Have you changed your mind about your desired/preferred number of children? IF YES: Why? How many times did you change your mind about this? Why each time?
- e. IF PREFERRED NOT EQUAL TO ACTUAL : Why did you not achieve your preferred/desired number of children? Have you done anything to achieve this? What resulted from each of your action/inaction?

- f. In your opinion, what is the ideal number of children a couple should have? Why?

2.2. Fertility control

- a. Do you know of any way to control the number of children you will have? Did you ever try any of these? How many times? When? What happened?
- b. Why did you decide to use FP?
Why did you decide not to use FP?
Why did you stop using FP?
Why did you switch FP methods?

AFTER READING YOUR TRANSCRIPTS, USE THE GUIDE QUESTIONS IN THE GRID FOR PROBING THE EFFECT OF THE FOLLOWING FACTORS ON FP USE:

- 1. Health of the child
 - 2. Health of the mother
 - 3. Religious norms or values
 - 4. Economic value of children
 - 5. Economic cost of children
 - 6. Accessibility of FP (information, supplies, services)
 - 7. Influence of family and friends, religious leaders, community leaders
- c. What is your husband's involvement in family planning? Did you explicitly discuss and decide about the method that you want to use?
 - d. REFERRING TO PREGNANCY HISTORY: Why did you have your pregnancies that close or far apart? Did you actively do anything to keep that distance? Why did you do it?
 - e. What do you consider as the most advantageous number of months/years between children? Why?
 - f. At what age should a woman have her last pregnancy? Why then? Why not earlier or later? In your case, when do you want to have your last pregnancy? Why? How old were you when the youngest was born?
 - g. What do you think should a woman do in case she has an unplanned pregnancy (or a pregnancy too close to the last one)? Why these and not others?

2.3. Aspirations for children

- a. What level/kind of education do you want your female children to have? Your male children to have? Why the difference in preference for female/male children?

3. Female Autonomy (self-determination, control over oneself, independence of movement) Status, and Aspirations

3.1. Resolution of issues

- a. Residence(s) after marriage (REFERRING TO THE WOMAN'S MIGRATION HISTORY): How were residential moves decided each time? Why this way? How did/do you feel about the decision? About the outcome of the decision?
- b. Woman's working outside the home (REFERRING TO THE WOMAN'S WORK HISTORY): How come you continued to work after your marriage? Or, why did you stop working after your marriage? How do you feel about the decision? About the outcome of the decision? What is your opinion of women who are working outside the home and those who are not working at all?
- c. Participation of woman/man in activities outside the home: Are there any social organizations in your community? In what activities outside the home have you been able to participate? Why? How do you feel about your participation / non-participation? Why do/ did you feel this way? Would you have wanted to participate? Do you have any enemies among your neighbors? What did you quarrel about?
- d. Sexual activities : Are there instances when you want to initiate sex with your husband? How do you go about this? Are there instances when you do not want to have sex but your husband does? What do you usually do? Why do you do this/se and not others? How do you feel about this? What are your sleeping arrangements? Do you and your husband sleep separate from the children? Do you have privacy during sex?
- e. Use of contraception: How was use / non-use of family planning decided in your family? Why this way? How do you feel about the decision/outcome of the decision? Would you have preferred another decision? Why or why not?
- f. Control over resources:

1. Money

- a. Does your husband turn over his earnings to you?

- b. Who decides what to buy in the household? Why him or her?
- c. Can you buy things for yourself without having to ask permission from your husband?
- d. Do you set aside some amount for your personal needs from the resources for the household budget? If yes, but still for family use, if your income were higher, what would you buy for your own personal consumption?

2. Food

- 1. How is food allocated in the household? Do some members get more food than others? Do some members get better food than others? If yes, who are these and why?
- b. Does the family eat together? If not, why?
- c. Do you give preference to those who are working?

3. Assets (appliances, house, lot)

- a. Who purchased your properties? (WE REALLY WANT TO KNOW WHOSE MONEY).
- b. Does anyone have control over the use of these properties?
- c. If yes, why?

3.2. Woman's assessment of her status

- a. Before you got married, did you have any plans or dreams to be achieved? What are these? Did you achieve these? If not, why?
- b. How do you compare yourself with other women in your neighborhood/workplace? Why do say so? How happy/unhappy are you about this relative state?
- c. How do you compare yourself with your own mother? Why do you say so? How happy/unhappy are you about this relative state?

BASES FOR COMPARISON ARE:

- 1. Economic situation
- 2. Relationship with husband
- 3. Looking after the children
- 4. Relationship with neighbors

- 3.3. Assessment of childbearing experiences: What can you say about the number of your children? Would it have been different if you had more or less children than what you have now?
- 3.4. Assessment of present health status, including reproductive health: Do you have any health problems? Do you have problems with your menstruation? About child bearing? Where do usually give birth? Are you given an episiotomy after each childbirth? If not, have you noticed a prolapse in your uterus? Have you ever had a pap smear? What was the result?
- 3.5. Aspirations
- a. If you were to live your life all over again, what would you do differently?
1. education : add years of schooling, change course
 2. work : work/not work, change type of work
 3. marriage : married later/earlier/not at all, change spouse, have less/more children
- b. For this change to take place, what do you think should you do? Why this? Can you do this? Why or why not?

How Representative is the In-depth Sample?

Some concern has been expressed about the representativeness of the In-depth sample. The following describes the process by which these women were selected.

The sample size was predetermined to be 60. These were equally allocated between the urban and the rural areas and distributed among the 33 sample barangays of the CLHNS. In general, the number of women interviewed In-depth in each barangay was proportionate to the number of respondents interviewed in the main survey during the 1994 follow-up. Three exceptions were made to this rule, and these were two rural island barangays which were excluded for practical reasons, and one urban barangay which was not sampled because the In-depth interview respondents had to be chosen before this barangay was completely surveyed in the last follow-up.

The table below illustrates how far the actual sample size is from the theoretical one. Three women were actually interviewed over the prescribed number because some respondents were relatively less articulate than the rest in narrating their stories.

Barangay	Portion of Total Pop.	Ideal Sample Size	Actual Sample Size
URBAN			
1. Quiot, Pardo	.064	1.92	2
2. Pahina, San Nicolas	.022	0.66	1
3. Sambag II	.090	2.70	4
4. Opao, Mandaue	.060	1.80	2
5. Cansaga, Consolacion	.007	0.21	0
6. Poblacion, Consolacion	.050	1.50	2
7. Basak, Pardo	.064	1.92	2
8. Mantuyong, Mandaue	.041	1.23	1
9. Basak, Lapulapu	.093	2.79	3
10. T. Padilla	.057	1.71	2
11. San Roque, Talisay	.064	1.92	3
12. Poblacion, Lapulapu	.036	1.08	1
13. Labangon	.142	4.26	4

Barangay	Portion of Total Pop.	Ideal Sample Size	Actual Sample Size
14. Basak, Mandaue	.038	1.14	1
15. Mojon, Talisay	.040	1.20	0
16. Casuntingan, Mandaue	.037	1.11	1
17. Lorega, San Miguel	.095	2.85	3
TOTAL URBAN	1.000	30.00	32
RURAL			
18. Jaguimit, Naga	.055	1.65	2
19. Danlag, Consolacion	.038	1.14	1
20. Balirong, Naga	.110	3.30	3
21. Panoypov, Consolacion	.026	0.78	1
22. Cao-oy, Lapulapu	.026	0.78	0
23. Bairan, Naga	.038	1.14	1
24. Caohagan, Lapulapu	.019	0.57	0
25. Sta. Cruz, Liloan	.036	1.08	1
26. Budla-an	.085	2.55	3
27. Cantao-an, Naga	.102	3.07	2
28. Pulpogan, Consolacion	.180	5.40	7
29. Inoburan, Naga	.091	2.73	3
30. Cogon, Cordova	.072	2.16	2
31. Pamutan	.049	1.47	2
32. Tolo-tolo, Consolacion	.057	1.71	2
33. Pob. Central, Naga	.015	0.45	1
TOTAL RURAL	1.000	30.00	31

Since family planning practice was a major concern, the sample in each stratum was classified according to FP Use (Current and Ever-Users vs. Never Users). For each category of FP Use, the women were grouped further according to Parity (Low (1-3), Medium (4-6), and High (7 and more)). As the sampling grid below shows, there are 12 cells of 5 women in each cell.

	URBAN		RURAL	
Parity	FP User	Non-User	FP User	Non-User
1-3	5	5	5	5
4-6	5	5	5	5
7+	5	5	5	5

In selecting the women to be interviewed in each barangay, the following procedure was observed. After a barangay was surveyed during the 1994 follow-up, a master list of women containing the Baseline ID Number, the woman's name, address, age, number of living children, and FP use was drawn. A sub-sample of women to be interviewed In-depth was then chosen at random based on the computed sample size for each barangay. This process was repeated until all the cells in the grid each had five women. Towards the latter part of the In-depth study, however, we selected the women purposively in order to fit the remaining incomplete cells of the sampling grid.

During the recruitment of the In-depth sample, we encountered 5 refusals. The circumstances surrounding these refusals were the following: 2 women said they were not available for the repeated interview sessions necessary to complete an In-depth interview. One of them was a woman who was washing other people's laundry in their homes, while the other was engaged in direct selling of ready-to-wear clothes. It was difficult for the interviewers to catch them at home because they were working even on weekends. The third refusal was due to an uncommunicative woman whose husband even volunteered (perhaps in jest) to respond for his wife, in apology for his spouse's non-interest in verbal communication. The fourth refusal was due to the respondent's unfavorable interview situation. She worked for a dental clinic where the machines were always so noisy. When the interview was done at home, the children's noise was also very bothersome.

The first recorded interview session was hardly audible for transcription. The fifth and last refusal was made by a respondent who was on the verge of having to sell the land on which their house was standing, since all the parcels surrounding their house were already bought by a developer. She could not assure the interviewer that she would stay in the area long enough to finish the interviews. It should be noted that only one of the five women who refused was employed in the formal sector.

Appendix 2. Results of a multinomial logistic regression analysis of working for pay.
Coefficients represent the log odds of work in each category relative to not working.

Multinomial regression

Number of obs = 2278
chi2(40) = 317.24
Prob > chi2 = 0.0000
Pseudo R2 = 0.0464

Log Likelihood = -3260.7535

work	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
(WAGE)						
momage94	-.0196109	.0122265	-1.604	0.109	-.0435744	.0043527
hied	1.13689	.2091945	5.435	0.000	.7268761	1.546903
lowed	.0825984	.1548636	0.533	0.594	-.2209287	.3861254
fstwork2	.2623962	.0690872	3.798	0.000	.1269878	.3978047
curstra2	-.7239884	.1659944	-4.362	0.000	-1.049331	-.3986454
dinco	-.0012682	.0002329	-5.444	0.000	-.0017247	-.0008116
infant	-.6916241	.2105497	-3.285	0.001	-1.104294	-.2789543
preschl	-.3106178	.0760685	-4.083	0.000	-.4597094	-.1615262
adult	.111923	.0550904	2.032	0.042	.0039477	.2198983
pregnow2	-.1574683	.1848263	-0.852	0.394	-.5197212	.2047845
_cons	1.610349	.4837562	3.329	0.001	.6622037	2.558493
(PIECE)						
momage94	-.018567	.013094	-1.418	0.156	-.0442308	.0070968
hied	-.2666736	.2743426	-0.972	0.331	-.8043752	.2710281
lowed	.1857556	.1579945	1.176	0.240	-.123908	.4954191
fstwork2	.2442295	.0804036	3.038	0.002	.0866413	.4018176
curstra2	-.1951903	.1588838	-1.229	0.219	-.5065968	.1162162
dinco	-.0008509	.0002567	-3.315	0.001	-.001354	-.0003477
infant	-.4835362	.2049442	-2.359	0.018	-.8852194	-.081853
preschl	-.1449947	.0767163	-1.890	0.059	-.2953559	.0053664
adult	.0049081	.0625875	0.078	0.937	-.1177611	.1275772
pregnow2	.1636364	.250412	0.653	0.513	-.327162	.6544349
_cons	.8266168	.5080352	1.627	0.104	-.1691139	1.822348
(SELF-EMPLOYED)						
momage94	-.0062808	.0107699	-0.583	0.560	-.0273895	.0148279
hied	.1942837	.2054667	0.946	0.344	-.2084236	.596991
lowed	.2291442	.1342031	1.707	0.088	-.033889	.4921773
fstwork2	.19969	.0482342	4.140	0.000	.1051527	.2942273
curstra2	-.1300398	.1328881	-0.979	0.328	-.3904958	.1304161
dinco	-.0006473	.0001758	-3.682	0.000	-.0009918	-.0003028
infant	-.5373111	.1676498	-3.205	0.001	-.8658988	-.2087235
preschl	-.2214369	.0646997	-3.423	0.001	-.348246	-.0946278
adult	.0408084	.0491009	0.831	0.406	-.0554275	.1370443
pregnow2	.0391834	.1897223	0.207	0.836	-.3326656	.4110323
_cons	.8974343	.4207954	2.133	0.033	.0726905	1.722178
(UNPAID FAMILY WORKER)						
momage94	-.0072194	.0177642	-0.406	0.684	-.0420366	.0275977
hied	-.3128968	.4123988	-0.759	0.448	-1.121184	.49539
lowed	.5360185	.2377549	2.255	0.024	.0700275	1.002009
fstwork2	.1616189	.0856927	1.886	0.059	-.0063358	.3295735

curstra2		.9481532	.2052253	4.620	0.000	.5459191	1.350387
dinco		.0003711	.0001636	2.269	0.023	.0000505	.0006916
infant		-.7497741	.3033679	-2.472	0.013	-1.344364	-.1551839
preschl		-.0770368	.1057462	-0.729	0.466	-.2842957	.130222
adult		.0843063	.075479	1.117	0.264	-.0636298	.2322424
pregnow2		.765577	.3432048	2.231	0.026	.0929079	1.438246
_cons		-3.053523	.7070227	-4.319	0.000	-4.439262	-1.667784

(Outcome work==0 is the comparison group)

Momage= mother's age, hied= Completed high school or greater, lowed=primary school or less, fstwork2=worked before marriage, curstra2=1 if urban and 2 if rural, dinco=income of household members exclusive of mother, infant is number of children less than 1 year of age, preschl= number of children 1-6, adult is number of adults in household, pregnow2=mother currently pregnant.

Appendix 3. Occupations of CLHNS sample women, 1994

Job Code	<u>Freq.</u>	<u>Percent</u>
----------	--------------	----------------

Professional, technical

Chemist	1	0.06
Agriculturalist	1	0.06
College professor	2	0.11
Secondary school teacher	9	0.51
Elementary school teacher	20	1.13
Nursery, kindergarten teacher	2	0.11
Other teacher	1	0.06
Physician	1	0.06
Dentist	1	0.06
Nurse	2	0.11
Midwife	2	0.11
Practical nurse, hilot	1	0.06
Medical or X-Ray technician	1	0.06
Sanitary Inspector	1	0.06
Nonordained religious worker	1	0.06
Social welfare worker	6	0.34
BSOP (family planning)	4	0.23
Accountant	2	0.11
Librarian	1	0.06
Language specialist	3	0.17
Musician	4	0.23
Engineering technician	1	0.06

Administrative, executive and managerial workers

Elected gov't official	1	0.06
Department head (office)	3	0.17
Director, mgr., working proprietor	46	2.60
Manufacturing	6	0.34
Elec, gas, water & sanitary services	3	0.17
Directors&mgrs	2	0.11
Bank, real estate, insurance	2	0.11
Transportation	10	0.06
Other director, mgr	1	0.06
Bookkeeper	3	0.17

Accounting clerk	4	0.23
Cashier, paymaster	5	0.28
Cash receiver, change maker	7	0.40

Job code	Freq.	Percent
----------	-------	---------

Secretary	2	0.11
Stenographer, typist	9	0.51
Office machine operator	2	0.11
Office clerk	4	0.79
Meter reader, other clerical	14	0.79

Sales workers

Working proprietor, wholesale trade	2	0.11
Working proprietor, retail trade	152	8.58
Traders	21	1.19
Sales, insurance	1	0.06
Sales, real estate	6	0.34
Traveling sales	6	0.34
Sales, wholesale and retail stores	112	6.32
Market vendors	91	5.14
News vendors	1	0.06
Street& sidewalk vendors	278	15.69
Salesgirls: softdrinks, cigarettes etc	31	1.75
Purchasing agent	1	0.06
Shop assistant	1	0.06

Farmers, fishers, loggers& related

Farm owner	11	0.62
Farm Owner/tenant	6	0.34
Farm tenant	58	3.27
Transient farm worker	5	0.28
Fisher	8	0.45
Gatherer of forestry products	10	0.56

Workers in transport and communication

Driver, bicycle	1	0.06
Conductor	1	0.06
Traffic controller, dispatch	1	0.06

Telephone, telegraph	1	0.06
Street and marker sweepers	11	0.62

Crafts, production process workers and laborers

	Freq.	Percent
Fiber, spinning&winding	15	0.85
Weaver	1	0.06
Textile dying	1	0.06
Rug, carpet maker	1	0.06
Tailor, dressmaker	35	1.98
Milliner	1	0.06
Marker&cutter, textiles	2	0.11
Sewers&embroiderers	38	2.14
Misc. Sewing	2	0.11
Apparel&related products	4	0.23
Footwear maker	1	0.06
Footwear cutters, lacers, sewers	3	0.17
Leather products	2	0.11
Metal worker	3	0.17
Repair, tv-radio	3	0.17
Furniture maker	1	0.06
Wood carver	1	0.06
Other woodworker	68	3.84
Painter (construction&maintenance)	1	0.06
Painter (other)	1	0.06
Varnisher	4	0.23
Pressmen, printing	1	0.06
Wood lamination	1	0.06
Printing worker	1	0.06
Glass worker	1	0.06
Potter	1	0.06
Glass and ceramic	2	0.11
Baker, pastry&native cakes	10	0.56
Sugar&chocolate	4	0.23
Curers, canners	11	0.62
Butcher, meat-cutter	10	0.56
Food processor	2	0.11
Chemical&related process workers	2	0.11
Misc production process	1	0.06
Basketry	125	7.05
Tire, vulcanizing	1	0.06

Plastic products	1	0.06
Other misc. Production process	8	0.46
ker, labeler	29	1.64

Service, sports& related workers

	Freq.	Percent
Police officers	1	0.06
Security guard	3	0.17
Housekeeper	3	0.17
Cook	10	0.56
Maid	19	1.07
Lavandera in prv. Household	136	0.67
Yaya	11	0.62
Waitress	5	0.28
Kitchen worker	3	0.17
Janitor, cleaner	10	0.56
Gardener	4	0.23
Beautician&related workers	1	0.06
Beautician&hairdresser	11	0.62
Manicurist	33	1.86
Laundry, dry clean (commercial)	9	0.51
Sports&related	1	0.06
Hospital&clinic attendants	1	0.06
Ushers, taxi dancers	3	0.17
Dealers, bookies, jai-alai usher	76	4.29
Porter	1	0.06
Other service	2	0.11

Total N= 1772

Appendix 4. Correlation matrix: Decision making variables.

APPENDIX 4	Pearson Correlation Coefficients / Prob. > r under Ho: Rho=0 / Number of Observations												
	Correlation Analysis:												
	SHOEPREV	DOCTPREV	CCLOPREV	SCHOPREV	LANDPREV	MAJOPREV	TRAVPREV	WORKPREV	FPUSPREV	FFMHPREV	GIFTPREV	HELPPREV	BATTERED2
SHOEPREV	1.00000 0.0001 2276	0.16851 0.0001 2274	0.14211 0.0001 2275	0.14665 0.0001 2272	0.13076 0.0001 2129	0.16416 0.0001 2237	0.18050 0.0001 2254	0.15666 0.0001 2267	0.14665 0.0001 2266	0.10990 0.0001 2250	0.21621 0.0001 2263	0.20684 0.0001 1407	0.00547 0.0001 2263
DOCTPREV	0.16851 0.0001 2274	1.00000 0.0001 2277	0.25957 0.0001 2275	0.29810 0.0001 2275	0.27507 0.0001 2129	0.26227 0.0001 2238	0.13649 0.0001 2255	0.12695 0.0001 2268	0.09777 0.0001 2267	0.12690 0.0001 2251	0.20483 0.0001 2264	0.19292 0.0001 1408	0.03251 0.0001 2264
CCLOPREV	0.14211 0.0001 2275	0.25957 0.0001 2277	1.00000 0.0001 2278	0.22170 0.0001 2275	0.17006 0.0001 2130	0.23699 0.0001 2239	0.14531 0.0001 2256	0.12695 0.0001 2269	0.09777 0.0001 2267	0.12690 0.0001 2252	0.20483 0.0001 2265	0.19292 0.0001 1408	0.03251 0.0001 2264
SCHOPREV	0.16465 0.0001 2272	0.29810 0.0001 2275	0.22170 0.0001 2275	1.00000 0.0001 2275	0.40366 0.0001 2127	0.34921 0.0001 2236	0.23000 0.0001 2253	0.16572 0.0001 2269	0.17316 0.0001 2265	0.15961 0.0001 2252	0.31876 0.0001 2265	0.35373 0.0001 1407	0.03804 0.0001 2262
LANDPREV	0.13076 0.0001 2129	0.27507 0.0001 2129	0.17006 0.0001 2130	0.40366 0.0001 2127	1.00000 0.0001 2131	0.56543 0.0001 2126	0.25252 0.0001 2118	0.17633 0.0001 2127	0.22487 0.0001 2121	0.24417 0.0001 2110	0.30872 0.0001 2121	0.39040 0.0001 1391	0.07512 0.0001 2118
MAJOPREV	0.16416 0.0001 2237	0.26227 0.0001 2238	0.23699 0.0001 2239	0.34921 0.0001 2236	0.56543 0.0001 2131	1.00000 0.0001 2126	0.19492 0.0001 2219	0.17430 0.0001 2232	0.15189 0.0001 2261	0.17005 0.0001 2214	0.25984 0.0001 2229	0.37374 0.0001 1408	0.08765 0.0001 2221
TRAVPREV	0.18050 0.0001 2254	0.13649 0.0001 2255	0.12695 0.0001 2256	0.23000 0.0001 2253	0.25252 0.0001 2118	0.17633 0.0001 2232	1.00000 0.0001 2249	0.40086 0.0001 2249	0.17557 0.0001 2247	0.16921 0.0001 2232	0.32427 0.0001 2244	0.35480 0.0001 1406	0.02991 0.0001 2244
WORKPREV	0.19666 0.0001 2267	0.12695 0.0001 2268	0.09777 0.0001 2268	0.17316 0.0001 2265	0.22487 0.0001 2127	0.24417 0.0001 2110	0.15189 0.0001 2261	0.13492 0.0001 2253	0.14922 0.0001 2253	0.14764 0.0001 2246	0.21649 0.0001 2257	0.30385 0.0001 1408	-0.03129 0.0001 2257
FPUSPREV	0.14665 0.0001 2266	0.20483 0.0001 2263	0.19292 0.0001 1408	0.29810 0.0001 2275	0.27507 0.0001 2129	0.26227 0.0001 2238	0.13649 0.0001 2255	0.12695 0.0001 2268	0.09777 0.0001 2268	0.12690 0.0001 2252	0.20483 0.0001 2265	0.19292 0.0001 1408	0.03251 0.0001 2263
FFMHPREV	0.10990 0.0001 2250	0.12690 0.0001 2255	0.09777 0.0001 2268	0.17316 0.0001 2265	0.22487 0.0001 2127	0.24417 0.0001 2110	0.15189 0.0001 2261	0.13492 0.0001 2253	0.14922 0.0001 2253	0.14764 0.0001 2246	0.21649 0.0001 2257	0.30385 0.0001 1408	-0.03129 0.0001 2257
GIFTPREV	0.21621 0.0001 2263	0.20483 0.0001 2263	0.19292 0.0001 1408	0.29810 0.0001 2275	0.27507 0.0001 2129	0.26227 0.0001 2238	0.13649 0.0001 2255	0.12695 0.0001 2268	0.09777 0.0001 2268	0.12690 0.0001 2252	0.20483 0.0001 2265	0.19292 0.0001 1408	0.03251 0.0001 2263
HELPPREV	0.20684 0.0001 1407	0.19292 0.0001 1408	0.18625 0.0001 1409	0.31876 0.0001 1407	0.35373 0.0001 1407	0.39040 0.0001 1391	0.40086 0.0001 1406	0.40086 0.0001 1406	0.40086 0.0001 1406	0.40086 0.0001 1401	0.40086 0.0001 1401	0.40086 0.0001 1401	0.40086 0.0001 1401
BATTERED2	0.00547 0.0001 2263	0.03251 0.0001 2263	0.0684 0.0001 2265	0.03804 0.0001 2262	0.07512 0.0001 2118	0.08765 0.0001 2227	0.02991 0.0001 2244	0.03129 0.0001 2257	0.03129 0.0001 2257	0.03129 0.0001 2257	0.03129 0.0001 2254	0.03129 0.0001 1402	0.03129 0.0001 2266

Appendix 5. Abstract of paper submitted for presentation at the 1998 PAA meetings by Connie Gultiano.

THE CONSTRAINING EFFECTS OF CHILDBEARING ON
FILIPINO WOMEN'S WORK EXPERIENCES
(*ABSTRACT*)

Connie Gultiano
Office of Population Studies
University of San Carlos

Two aspects of women's lives have received considerable research and policy attention: their productive and reproductive roles. It has been clearly recognized that these two roles are not only intricately intertwined but are often assumed to be incompatible with one another. Although a good number of studies in Western societies point to a negative relationship between a woman's fertility and her labor force participation, there is likewise evidence, drawn particularly from developing countries, that demonstrates otherwise. Extant in these developing societies are familial and societal conditions that seemingly attenuate the degree of incompatibility between child care and maternal employment.

Another assumption frequently extrapolated from modern to developing societies is that the entry of women into the modern workforce will bring improvements into their lives, their families and communities. Albeit providing impetus to a number of "Women in Development" (WID) studies in the past, this assumption remains largely untested in Western societies and has, in fact, been assailed in studies pertaining to the Third World. What some of the latter have shown is that poor women in developing countries may in fact be compromising their own welfare as well as that of their children by attempting to simultaneously meet the heavy demands upon their time and effort by both domestic and market activities.

This study addresses the two questions raised above: 1) do childbearing and child care pose significant impediments to maternal employment for women in a developing country, and 2) does maternal employment redound to the welfare of these women and their families. Recognizing that contradictory findings regarding the nature of the fertility-employment nexus have largely been attributed to conceptual and methodological inadequacies, this study has chosen to use alternative measures of work -- i.e., full time and part time work, as well as formal and informal sector work -- in addition to the work - nonwork dichotomy. There is some consensus, based on opportunity cost theory, that full-time and/or formal-sector work in particular are the kinds of work most incompatible with fertility. Furthermore, it is argued that the degree of incompatibility between child care and mother's work varies with the stages of the family life cycle. Consequently, a measurement of women's employment behavior taken from a dynamic or longitudinal perspective is deemed superior to one taken at a single point in time. The use of panel data in this study

enables the examination of a mother's *work pattern* over four time-points that span a period of 12 years, i.e., an interval constituting a significant portion of a woman's reproductive life.

Data for this study are provided by the Cebu Longitudinal Health and Nutrition Survey (CLHNS). The study area is Metropolitan Cebu, the second largest metropolitan area in the Philippines. All sample women were, at the time of the baseline survey in 1983-1984, in the third trimester of pregnancy. These women were re-surveyed at the time of birth (of the index child) and bimonthly thereafter until two years postpartum. Two follow-up surveys were conducted: in 1991-1992, and in 1994-1995. In the latter survey, additional qualitative data were obtained from a subset of mothers by means of in-depth interviews.

Because it is assumed that the incompatibility of mother and worker roles is more in evidence in urban rather than rural settings, this study limits itself to the analysis of urban mothers. It further limits itself to data from four out of 16 surveys so far conducted by the CLHNS, i.e., 1) the baseline survey, 2) the 12th longitudinal survey, 3) the 1991 follow-up survey, and 4) the 1994 follow-up survey. The study methodology necessitates that a sample woman has information (or was interviewed) in all four surveys. Of the original cohort of 2,555 urban mothers, 1,511 meet this criterion. Tests for selectivity, however, assure that sample attrition and the selection of the analysis group did not introduce any significant bias into the statistical analysis.

Fertility measures used in the study are: pregnancy status, parity, and number of children under two years old residing in the household at time of survey. Controlling for the confounding effects of the absence of a spouse, mother's education, work experience, income of other members in the household and availability of substitute child care-givers, the longitudinal probit model applied upheld the negative influence of childbearing (pregnancy) and child rearing (number of children under two years old in the household) on the likelihood that a mother will work. The only other factor that decreases a mother's probability of working is the high income earned by other members of her household. On the other hand, a mother is motivated to work if she: 1) belongs to a low-income household, 2) has had tertiary education, 3) accumulated years of work experience, or 4) has hired help at home. Moreover, the likelihood that a mother with the given criteria will work is significantly stronger for each succeeding survey relative to the preceding ones. This is probably indicative of improvements in employment opportunities in Metro Cebu over time.

Multinomial logistic regression allowed for the examination of mothers' propensity to work in the formal vis-a-vis the informal sector. Results showed that women with fewer children have a higher probability than those of higher parity to work in the formal sector. Regarding the choice to work full-time or part-time, mothers with very young children showed a preference to part-time rather than full-time employment during the 12th longitudinal survey and the 1991 follow-up survey.

An examination of *work patterns* reveals an appreciable degree of labor force attachment among Cebu mothers. The most dominant work pattern is one in which the woman had worked persistently during all four surveys (23% of mothers). This is followed by: a) women who worked only in 1991 and 1994 (16%) and b) those who worked continuously after but not during the

baseline survey (14%). Women who did not work in any of the four surveys comprised the fourth dominant category (10%).

Responses from the 1994-1995 in-depth interviews provide insights into mothers' perceptions about the advantages and disadvantages of working. In their narrations, mothers rarely failed to mention that working, especially outside the home, significantly reduces a mother's attention and time for her children as well as for her husband and her home. It is pointed out that children of very young ages should not be left in the care of servants and that, consequently, mothers should consider working only if a reliable caretaker is around or when children have grown older. The consensus is that, if the family has the means, a mother should not work at all.

Despite this keen awareness of the undesirable implications of employment on one's children, mothers likewise conceded in the in-depth interviews that there are many benefits to be gained from remunerative activities. These benefits include: 1) the provision of money that is at the woman's disposal, i.e., money which she usually foresees spending on health care and the educational needs of her children and only secondarily for her own personal needs; 2) income that is urgently needed to supplement the husband's earnings in order to "make ends meet"; 3) facility of access to credit; 4) finding a diversion from the problems and doldrums of family life; 5) the opportunity and need to exert effort to look good or attractive; and 6) being exposed to, and learning from, new experiences.

Whether or not these perceptions and expectations were in fact experienced by the sample mothers will be explored more fully in a bivariate and multivariate framework. Work patterns will be examined in relation to a number of welfare indicators. Preliminary tabulations, for instance, revealed that mothers with strong work commitment (worked consistently during the four surveys) were also likely to be autonomous decision makers in the household. If labor force participation and commitment to work are indeed desirable states for mothers, this study highlights the need to limit family size in order to enable mothers to become more economically productive members of their households and society.